Course Catalog 2006-2007

The information contained in this catalog is to be used as a guide to the New Hampshire Community Technical College-Manchester for its students, staff members, prospective students and other educational institutions. All information including but not limited to: costs, rules, regulations, program requirements, course content and staff, is subject to change at any time. The college reserves the right to modify aspects of college operations as well as to change tuition and other charges without notice.

NHCTC

NHCTC-M

Manchester's Community College

Main Campus ~ Manchester

Satellite Campus ~ Derry

College Vision and Mission Statement

VISION:
New Hampshire Community Technical College at Manchester will remain a college of choice through academic excellence and partnerships with business, industry, educational affiliates, and the community.

MISSION:
The New Hampshire Community Technical College at Manchester is a comprehensive postsecondary institution offering quality technical, academic, and professional education in support of workforce development and life-long learning. Our educational programs and opportunities are affordable, accessible, and responsive to the diverse needs of an ever-changing community.

To achieve this mission we seek to:

1. Promote learning outcomes that:
   - meet high academic standards
   - serve the present and future needs of students and the community
   - provide a strong foundation for professional employment, intellectual growth, and transferability
   - reflect and meet the needs of the multi-cultural world;

2. Create an environment that fosters an appreciation of life-long learning and critical thinking;

3. Maximize support for student development and success at the College;

4. Partner with the community, offering individuals educational opportunities through continuing education and customized training services;

5. Be a community and economic development resource for students, employers, and the citizens of New Hampshire, and

6. Continuously assess, improve, and develop programs, curriculum, and delivery of services in response to community needs.

New Hampshire Community Technical College System
MISSION STATEMENT

The New Hampshire Community Technical College System is committed to providing comprehensive, market-driven, accessible, quality programs of higher education and services that respond to the needs of students, businesses, and communities.

A Message from our President

Welcome to Manchester's Community College!

As NHCTC-Manchester's new president, I want to assure you that we can help you achieve your academic goal - whether you plan to go on to a four-year college, to upgrade your skills, or to begin a new career.

Our students run the gamut of age and background; your classes will include students right out of high school, 30-somethings who realize that a college degree or certificate will help them advance their careers, and older adults who are changing careers. Our students represent almost 50 different countries - they're African, Asian, Hispanic, Slavic, and European. Many are the first in their families to attend college; others come with college degrees to learn new skills. Regardless of where you fit into these categories, we welcome you to our campus. Everyone deserves an opportunity to earn a college degree. Our mission is to help you achieve your goal.

This is an exciting time to be a part of NHCTC-Manchester! Just as Manchester is transforming itself from a community grounded in manufacturing to the state's largest city with a thriving downtown, quality public schools, local sports teams, and a variety of cultural offerings, so, too, is our college undergoing its own transformation.
Over the past 60 years we have evolved into a comprehensive community college that sends its graduates off to four-year colleges and universities around the country and provides the skilled technicians New Hampshire relies on to keep our economy moving.

Yet while we grow and evolve, our fundamental mission remains the same: to help our students meet their academic and career goals to achieve the best possible lives for themselves and their families.

Again, I welcome you to NHCTC-Manchester.

Sincerely,
Dr. Darlene Miller

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GENERAL INFORMATION

Academic Calendar 2006-2007

FALL 2006

September 5	Semester begins
October 8	Last day to drop with a "W" grade for first 8-wk classes
October 9	Columbus Day - All classes are held as scheduled
October 24	Last day to drop with a "WP/WF" grade from first 8-week classes
October 29	First 8-week semester ends
October 30	Second 8-week semester begins
November 10	Veteran's Day Holiday - College closed
November 12	Last day to drop with a "W" grade for 16-week classes
November 23-26	Thanksgiving Holiday - College closed
December 3	Last day to drop with a "W" grade for 2nd 8-week classes
December 9	Last day to drop with a "WP/WF" for 16-wk classes
December 14	Last day to drop with a "WP/WF" for 2nd 8-week classes
December 19-22	Final Exam Period
December 22	Semester ends

Spring 2007

January 2-12	Winterim Session
January 15	Martin Luther King's Birthday - College closed
January 16	Semester begins
February 18	Last day to drop with a "W" grade for first 8-wk classes
February 19	President's Day - College closed
March 6	Last day to drop with a "WP/WF" grade from first 8-week classes
March 11	First 8-week semester ends
March 12 - March 18	Spring Break-no day, evening or weekend classes
March 19	Second 8-week semester begins
April 1	Last day to drop with a "W" grade for 16-week classes
April 8	Easter Sunday - no classes
April 18	No DAY Classes. Evening Classes are held as scheduled (Symposium)
April 22	Last day to drop with a "W" grade for 2nd 8-week classes
April 28	Last day to drop with "WP/WF" for 16-week classes
May 3	Last day to drop with a "WP/WF" for 2nd 8-week classes
May 8-11	Final Exam Period
May 13	Semester ends
TBA	Graduation

Summer 2007

SUMMER 2007	
May 28	Memorial Day
June 4	8 week semester begins
July 4	Independence Day - College Closed
July 8	Last day to drop with a "W" grade for 8-wk classes
July 22	Last day to drop with a "WP/WF" grade from 8-week classes
July 29	Semester ends

Accreditation Statement

The New Hampshire Community Technical College-Manchester is accredited by the New England Association of Schools and Colleges Commission, Inc., a non-governmental, nationally recognized organization whose affiliated institutions include elementary schools through collegiate institutions offering post-graduate instruction.

The New Hampshire Community Technical College at Manchester has been granted accreditation from the New England Association of Schools & Colleges, Inc.'s Commission on Institutions of Higher Education. Accreditation of an institution by the New England Association indicates that it meets or exceeds criteria for the assessment of institutional quality periodically applied through a peer group review process. An accredited school or college is one which has available the necessary resources to achieve its stated purposes through appropriate educational programs, is substantially doing so, and gives reasonable evidence that it will continue to do so in the foreseeable future. Institutional integrity is also addressed through accreditation.

Accreditation by the New England Association is not partial but applies to the institution as a whole. As such, it is not a guarantee of the quality of every course or program offered, or competence of individual graduates. Rather, it provides reasonable assurance about the quality of opportunities available to students who attend the institution.

Specialized Accreditations:

Business Programs (Accounting, Administrative Assistant, Management, Marketing)
Association of Collegiate Business Schools and Programs (ACBSP).

Medical Assistant – The New Hampshire Community Technical College-Manchester's Medical Assistant Programs are accredited by the Commission on Accreditation of Allied Health Education Programs (www.caahep.org) upon the recommendation of the Curriculum Review Board of the American Association of Medical Assistants Endowment (AAMAE).
Commission on Accreditation of Allied Health Education Programs, 35 East Wacker Drive, Suite 1970, Chicago, IL 60601-2208
(312) 553-9355

Nursing – National League for Nursing Accrediting Commission (NLNAC), full accreditation; New Hampshire Board of Nursing and Nurse Registration, full accreditation.

Notice of Non-Discrimination

NON-DISCRIMINATION AND COMPLIANCE

Non-Discrimination Policy
The New Hampshire Community Technical College-Manchester does not discriminate in the administration of its admissions and educational programs, activities, or employment practices on the basis of race, color, religion, national origin, age, sex, disability, veteran status, sexual orientation, or marital status. This statement is a reflection of the mission of the NH Community Technical College System and NHCTC-Manchester and refers to, but is not limited to, the provisions of the following laws:

1. Title VI and VII of the Civil Rights Act of 1964
2. The Age Discrimination Act of 1967 (ADEA)
3. Title IX of the Education Amendment of 1972
4. Section 504 of the Rehabilitation Act of 1973
5. The Americans with Disabilities Act of 1990 (ADA)
6. Section 402 of the Vietnam Era Veteran's Readjustment Assistance Act of 1974
7. NH Law Against Discrimination (RSA 354-A)

Inquiries regarding discrimination may be directed to Marion Knedler, NHCTC-Manchester at 603-668-6706, to Sara A. Sawyer, Director of Human Resources for the NH Community Technical College System, 26 College Drive, Concord, NH 03301, 603-271-6300. Inquiries may also be directed to the US Department of Education, Office of Civil Rights, J.W. McCormack Post Office and Courthouse, Room 701, 01-0061, Boston, MA, 02109-4557, 617-223-9662, FAX: 617-223-9669, TDD:617-223-9695, or Email: OCR_Boston@ed.gov; the NH Commission for Human Rights, 2 Chennell Drive, Concord, NH 03301, 603-271-2767, FAX: 603-271-6339; and/or the Equal Employment Opportunity Commission, JFK Federal Building, 475 Government Center, Boston, MA, 02203, 617-565-3200 or 1-800-669-4000, FAX: 617-565-3196, TTY: 617-565-3204 or 1-800-669-6820.

Objectives

The New Hampshire Community Technical College at Manchester is dedicated to the belief that each individual should be provided a continuing opportunity for the development of skills and knowledge and an increasing awareness of his or her role and responsibility in society. The college is devoted to serving the occupational/educational needs of the State of New Hampshire and assumes a responsibility to help meet the requirements for a skilled work force through a cooperative effort with local industry, business, service and health organizations.

The college prepares learners for essential professional and workforce occupations with broad, high quality, practical education. Programs employ equipment and materials consistent with the modern workplace, and the faculty blend academic credentials with pertinent work experience. The major programs of study include liberal arts and the intellectual skills necessary for the competent, lifelong learner.

The college believes it is important that individuals establish a set of personal values which are able to be reflected in their own eyes and in the eyes of the community. These values increase through an educational program geared to the continual development of human potential. Acquisition of basic knowledge and saleable skills is only the beginning of the process of education and development that continues throughout life.

History and Campus Descriptions

New Hampshire's system of post-secondary vocational-technical education developed in response to conditions in New Hampshire following the end of World War II. Recognizing that many soldiers, sailors, and airmen, among others, would be demobilized and in need of retraining for civilian life, two State Trade Schools were developed. Since that time, the New Hampshire Community Technical College System has grown to seven colleges and several satellite locations throughout the state.

One of the seven colleges falling under the auspices of the System is the New Hampshire Community Technical College at Manchester. Serving the needs of the Merrimack Valley, the College includes the main campus in Manchester, and a satellite location at Pinkerton Academy in Derry. The college is governed collectively by the state's Governor, Executive Council, System Board of Trustees, and individually by Advisory Committees, a President and a Chief Campus Officer.

The college enrolls about 3,000 students per semester and offers more than 20 degree and certificate programs as well as workshops and professional development programs. The college includes a Center for Academic Planning and Support, a Learning Resources Center (library), state-of-the-art instructional labs, auditoriums and a full-service Childhood Education Center in Manchester. Both locations are accessible to all people with physical challenges.

Manchester Campus - Located on 57 acres near the banks of the Merrimack River, north of the city center, the Manchester campus offers classes and programs in two major connected buildings, and has ample room for future growth while retaining more than adequate green space and parking. As part of New Hampshire's largest city, the campus is actively engaged in community outreach, and plays an integral role in the increasing ethnic and cultural diversity of the area.

Derry Satellite - Increasing community access for residents of the fast-growing area between the Massachusetts border and Manchester, our Derry satellite campus is located in the vocational center at Pinkerton Academy, the public high school serving the community. This satellite program offers Human Services and Early Childhood Education programs and a variety of courses from other programs from Accounting to Welding.

Admission Requirements

NH Community Technical College at Manchester welcomes all applicants seeking admission into a degree, professional certificate or certificate program. Although some programs have specific requirements for admission, many courses and programs are open to anyone who completes the application process and can demonstrate the ability to benefit from the program. The following rules will guide the admission of students to the college:

1. New Hampshire residents shall be given preference over those not domiciled in the state and;
2. Second priority shall be given to students qualifying under the New England Regional Student Programs.

Students admitted into a program are required to submit a **non-refundable** advanced tuition deposit of $100 within two weeks of acceptance. This deposit is applied toward tuition fees and confirms that the student has accepted the college's offer of enrollment in the chosen program and permits the student to register for classes. Registrations in high demand or limited enrollment programs will be processed in the order in which they are received until seats are filled.

COLLEGE APPLICATION PROCEDURES

Prior to being granted admission to the college, every applicant must:

1. Be a high school graduate or equivalent.
2. Submit an application for admission in the Admissions Office and pay a $10 application fee in the Business Office.
3. Have official transcripts sent to the college by all secondary and postsecondary institutions previously attended.
    a) Applicants who have earned a high school equivalency certificate or GED must submit a copy of the certificate, including scores.
    b) Applicants who were home schooled are advised to contact the Coordinator of Admissions for more information.
4. Satisfy the high school course recommendations or requirements noted in the program descriptions in the curricula section of the catalog and/or Specific Program Requirements.
5. Perform satisfactorily on any entrance exams required by the academic program to which admission is desired.
6. Arrange for a personal interview if required.
7. Submit recommendations from school personnel, employees or other professionals, if requested.

Admission Requirements continued...

Please see individual programs for program specific requirements.

Note: It is the applicant's responsibility to request official transcripts be mailed ***directly*** to the Admissions Office. The high school transcripts must be received prior to consideration of the application.

Matriculated status is maintained by successfully completing one course per academic year. Otherwise, a student will be required to re-apply for admission. Some classes or programs with limited enrollment may not be available.

Send transcripts: New Hampshire Community Technical College
Admissions Office
1066 Front Street
Manchester, NH 03102-8518

International Student Applicants

New Hampshire Community Technical College-Manchester is authorized under Federal law to enroll non-immigrant students. International applicants seeking a Certificate of Eligibility (I-20) for F-1 status must submit the following documentation:

1. An application for admission with a non-refundable $10 application fee;

2. Official secondary school transcripts, translated into English, listing all courses taken, grading system and grades earned;

3. If applicant has completed college level courses, an official college transcript, translated into English, listing all courses taken, course descriptions, grades earned and grading system;

4. Applicants whose native language is not English must take the Test of English as a Foreign Language (TOEFL) and earn a score of 500 or better (a computerized test score of 173 or better is necessary). Information regarding The Next Generation TOEFL (Internet-Based Testing) is forthcoming. Please contact Admissions directly for more information. For information regarding test contact: TOEFL, Educational Testing Service, Rosedale Road, Princeton, NJ 08541 USA, (609) 921-9000, www.toefl.org

5. Letter from the financial institution that holds the funds of the person financially responsible for the student's educational and living expenses. The statement must be on official letterhead, list the sponsor's name and the amount of money available for the student. The document must be in English and if the currency held is not in U.S. dollars the exchange rate must be listed.

6. Affidavit or letter of support from the person who will be financially responsible for the student. This letter should include the student's name and their intent to attend New Hampshire Community Technical College-Manchester, as well as the amount of money available for the student's education and living expenses. The letter must be signed by the sponsor and must be in English.

7. If the applicant is currently in this country, we will also require copies of current passport and immigration documents including a Visa, Duration of Status (D/S) stamp on I-20. We will also need his/her address in the country that (s)he plans to return to once (s)he graduates from this college.

8. High demand programs with limited enrollments may not be available to international students. We recommend confirming that the program to which you are applying is open to international students prior to applying.

Applicants (or their spouses) must have enough money available in an account to cover a minimum of one year of expenses that include: out-of-state tuition, fees, living expenses, and books. All of the above documentation must be submitted and the student accepted before a Certificate of Eligibility (I-20) for an F-1 visa will be issued. All F-1 students must be full-time (12 credit hours or more) each semester (except summer) in order to maintain their visa status. International students must meet with the International Student Counselor in the Center for Academic Planning and Support (CAPS) upon arrival.

Senior Citizens

Adult learners aged 65 and over who are NH residents may enroll in credit courses at a tuition cost of 50% at NHCTC-Manchester if space is available. Lab and other fees are to be paid by student. Full tuition, lab, and other fees will be charged for all non-credit, enrichment, professional development and recertification classes.

Class Schedules

Class schedules noting specific times and days are developed on a semester-by-semester basis and are published in the Semester Course Scheduler. Classes are scheduled during the day, evening, and weekend. Students completing program requirements may be asked to take classes at any of those times.

Financial Aid

The college's financial aid program assists students who are unable to meet their expenses entirely from their own family resources. Financial aid provides funds for direct (tuition and fees, etc.) and indirect college expenses (books, supplies, transportation and equipment, etc.). These funds come in three different forms; grants, which do not have to repaid; loans which must be repaid; and part-time jobs (Federal Work Study Program) from which the student earns an hourly wage. Students who are awarded financial aid may receive any or all of these forms of aid.

Eligibility Requirements
In order to receive financial aid, a student must demonstrate need by filling out a Free Application for Federal Student Aid (FAFSA) form. This form is available at high schools, on-line at www.fafsa.ed.gov and in the college Financial Aid Department. Completion of the FAFSA is required for consideration for Pell Grants, Perkins Loans, Work Study, Supplemental Educational Opportunity Grants, Stafford Loans, and the New Hampshire Incentive Program.

Completion of the FAFSA form will require a school code. The school code for Manchester is 002582. Additionally, students and parents of those students who are dependent must sign the FAFSA form.

The student must also be a U.S. citizen or eligible non-citizen, have a high school diploma or GED. The student must also meet qualitative and quantitative standards for satisfactory progress. These standards are described in the college's Financial Aid Handbook available in the Financial Aid office at each campus. A copy of the Financial Aid Handbook is mailed to each student who receives an Award Letter. Students must also be enrolled in a matriculated program that requires at least 16 credit hours for completion. For some grants and loans, a student must also be enrolled at least half-time (6 credits) to qualify. Students who qualify for loans must complete loan counseling and sign a Promissory Note.

Sources of Financial Aid

Pell Grant A federally funded program which assists students with the cost of attending college, a Pell Grant does not have to be paid back. To receive a Pell Grant, the student must meet all eligibility requirements and be an undergraduate who does not have a bachelor's degree. *If a student withdraws from college before completion of 60% of the semester, the student may be responsible for forfeiting monies to the college and/or the Federal Government.*

Supplemental Educational Opportunity Grant (SEOG) A SEOG is available to students who demonstrate exceptional financial need, and does not have to be paid back. To receive a SEOG, a student must meet all eligibility requirements, be an undergraduate who does not have a bachelor's degree, and be enrolled at least half-time (6 credits). Limited funds are available and are on a first-come, first-served basis. Awards range from $100 to $1,000 per year. *If a student withdraws from college before completion of 60% of the semester, the student may be required to forfeit monies to the college and/or the Federal Government.*

Federal Work Study The Federal Work Study Program (FWSP) gives the student an opportunity to earn money for educational purposes on a part-time basis. Typically, students work as lab and library aides, office and maintenance support persons under the supervision of a faculty or staff member; some off-campus positions are also available. Students will be paid at least the current federal minimum wage. Students will also be required to perform the work assigned in a responsible and professional manner. A confidentiality agreement must be signed for all work-study positions. All students must meet their course requirements prior to working a work-study position. In most cases, work-study hours are limited to 12-15 hours per week.

Perkins Loan Perkins Loans are low-interest loans made through the Financial Aid Office at the college. Students may borrow up to $3000 depending on the availability of federal funds. Repayment begins and interest accrues nine months after the date of graduation. Students must meet all eligibility requirements and be enrolled at least half-time in order to receive a Perkins Loan. Students receiving a Perkins loan will be asked to complete loan counseling and to sign a Promissory Note. *If a student withdraws from school before 60% of the semester is completed, the student may be required to forfeit monies to the lender and/or to the college.*

Stafford Loans (Subsidized and Unsubsidized) Subsidized Stafford Loans do not accrue interest while the student attends college. Unsubsidized Stafford Loans accrue interest while the student attends college. Both Subsidized and Unsubsidized Stafford loans are low-interest loans made to the student by a lender. Level One students (up to 31 credits achieved) may borrow up to $2,625 per academic year. Level Two students (31 or more credits achieved) may borrow up to $3,500 per academic year. Repayment begins and interest accrues six months after the date of graduation. Students must meet all eligibility requirements, be enrolled at least half-time (six credits), complete loan counseling and sign a Promissory Note. *If a student withdraws from school before 60% of the semester is completed, the student may be required to forfeit monies to the lender and/or to the college.*

Loans for Educational Assisting Funding (LEAF) New Hampshire Higher Education Association Foundation (NHHEAF) sponsors a loan (LEAF) which may be used to supplement financial aid awards. NHHEAF offers 24-hour turnaround on applications, and a competitive interest rate. Repayment is deferred until six months after the student completes school. Students must meet all eligibility requirements, be enrolled at least half-time (6 credits) and sign a Promissory Note.

Federal Parent Loans for Undergraduate Students (PLUS)
Federal loans for undergraduate students are meant to provide additional funds for educational purposes. The borrowers for these loans are the parents of undergraduate, dependent students. Parents of dependent undergraduate students may borrow up to a student's cost of attendance less estimated financial assistance. The interest rate for these loans is variable and set annually not to exceed nine percent (9%). In order to receive a PLUS loan, the child of the parent must meet all eligibility requirements and be enrolled at least half-time (6 credits). A parent of the student will be required to sign a Promissory Note.

New Hampshire Tech Loans (NHTL) The NHTL is a low interest (five per cent) loan made through the Financial Aid Office at the college. Students may borrow up to $1000, depending on the availability of state funds. Repayment begins and interest accrues 6 months after graduation. Students must meet eligiblity requirements. Priority is given to full-time students who demonstrate financial need.

New Hampshire Incentive Program (NHIP) NHIP provides grants for New Hampshire residents attending college within or outside New Hampshire. Applicants must be at least half-time students (6 credits) and meet eligibility requirements. The application deadline is May 1.

Tuition Rates

IN-STATE STUDENTS (New Hampshire Residents)
$164.00 per credit

NEW ENGLAND REGIONAL STUDENTS (CT, MA, ME, RI, VT)
$246.00 per credit

OUT OF STATE STUDENTS / INTERNATIONAL STUDENTS
$376.00 per credit

SUMMER SEMESTER (where applicable)
Students will be charged the applicable tuition rate on a per credit basis for any program-required course work over a summer semester.

CREDIT BY EXAMINATION
A fee of $25.00 per credit, plus all direct costs associated with providing a laboratory portion of an exam, will be charged to a student wishing to receive credit by examination.

NURSING CLINICAL SURCHARGE
All nursing students taking clinical courses will be charged a nursing clinical surcharge of $350 per semester. This surcharge is designed to assist in covering the increased expenses associated with clinical classes. This fee is in addition to the lab fee. Explanation: The New Hampshire Board of Nursing adopted a change in the chapter 600:11 of administrative rules. This chapter dictates the number of students that may be supervised by one faculty member in a clinical setting. The new rule changed the student/faculty ratio from 10:1 to 8:1, which has impacted clinical supervision costs. The Board of Nursing governs the instruction offered to nursing students, and the Community Technical Colleges must comply with their rules which took effect June 26, 1998.

PROTESTED CHECKS
A fee of $25 or 5% of the face value of the check, whichever is greater, plus any bank fees, will be charged for any check protested or returned for non-sufficient funds.

LIBRARY FINES
Students will be assessed a fine of $.25 per item/per day for all overdue Library materials.

ACADEMIC INSTRUCTION FEE
A fee will be charged for all Laboratory/Clinic/Practicum/Co-op/Internship or other similar experiences. This fee is calculated by subtracting the number of lecture hours from the number of credit hours and multiplying the remainder by $44 for each course. This fee will be added to the normal tuition charge for that course. *(See example below.)*

EXAMPLE	Lec	Lab	Credit
BIOL110 A&P I	3	3	4

(4 credits - 3 lecture hours = 1 x 44 = $44)

This fee will be charged to all students with no exceptions.

COMPREHENSIVE STUDENT SERVICES FEE
$5 per credit - This per credit fee is charged for every credit regardless of the number of credits taken.
On-line courses will be assessed a CSS fee.

COLLEGE COSTS/EXPENSES 2006-2007

TUITION Per Semester

New Hampshire Resident	$164.00 per credit
New England Regional Student Program (NERSP)	246.00 per credit
Out of State or International Students	376.00 per credit

FEES (Required)

Placement Testing (Accuplacer)	12.00
Orientation Fee	25.00
Application Fee	10.00
Nursing Clinical Surcharge (per semester)	350.00
Lab Fee**	44.00 per credit
In some instances, lab fees may be charged.for non-credit classes	
Student Comprehensive Fee	5.00 per credit
Graduation Fee	75.00
Transcript Fee	3.00
Transcript Fee if faxed	8.00
Deferred Payment Fee	30.00
Proctor Exam Fee:	$40 per exam for non-NHCTC students

Books and Supplies (Estimated)

Texts and Writing Materials	$700.00
Automotive Tools and Materials (non-lab could be less)	2600.00
Nursing Uniforms, Accessories, Supplies	150.00
Licensing Exam	250.00
NLN Pre-Admission RN Examination	40.00
Student Accident Only Coverage /12 Months	112.00
Student Accident & Sickness Coverage /12 Months	420.00
Student & Family Accident Only Coverage /12 Months	458.00
Student & Family Accident & Sickness Coverage /12 Months	2983.00
Nursing Student Liability Insurance	15.00

*Tuition rate is established by the Board of Trustees and is subject to change without notice.

PAYMENT

Payment of Tuition Deposit
Applicants accepted as students must pay a non-refundable tuition deposit of $100 upon notification of acceptance. The deposit reserves a place for the student and is applied toward the first semester's tuition.

Payment of Tuition and Fees
Billing for tuition and fees is coordinated through the college Business Office. Bills are mailed approximately 30 days prior to the beginning of each semester. Payment or arrangement for payment must be made two weeks before the beginning of the semester. For late registration, payment in full must be made upon registration. Discover, Visa/MasterCard, check, or cash are accepted as payment. Students awaiting scholarships or financial aid awards to cover tuition may request a deferred payment through the Business Office subject to the approval of the President. Payment plans are available at the college business office through FACTS Tuition Management. If payment or arrangement for payment is not made, students will be administratively withdrawn, but will remain responsible for tuition and fees. **NOTE: A student may be academically withdrawn later in a semester, and will be responsible for all tuition and fees.**

Some students will be eligible to sign a tuition deferment with no up front tuition payment. In order to sign a financial aid deferment with the business office, you must have filed your FAFSA by the date associated with your respective start semester:

Summer April 15
Fall July 15
Spring November 15

If you have not filed by the respective date, you may be required to make alternate payment arrangements with the business office for that semester. Once you file your FAFSA, you can be reimbursed for that semester depending upon eligibility. Please consult the financial aid office for more information.

Collection Clause
The following clause is included on college forms, with areas for student signature, signifying their understanding of their financial obligations.
"I understand by registering for courses at NHCTC, I am financially obligated for ALL costs related to the registered course(s). Upon a drop or withdrawal, I understand I will be responsible for all charges as noted in the student catalog and handbook. I further understand that if I do not make payment in full, my account may be reported to the credit bureau and/or turned over to an outside collection agency. I also understand I will be responsible for the costs of the outside collection agency, any legal fees, and any bounced check fees under RSA 6:11, which will add significant cost to my existing account balance."

Veterans
The Registrar verifies veteran registration two weeks after classes begin. Veterans are responsible for payment of tuition and fees pending the receipt of benefits.

TUITION REFUND POLICY

Credit Courses
Students who withdraw and complete the official college withdrawal procedure *prior* to the first meeting of the class in the second week of the semester for 16-week, eight-week and Winterim courses, will receive a 100% refund of tuition, less any non-refundable fees. By NHCTC policy, no refunds will be granted after that date. Non-refundable fees are defined as advance tuition and application fee. All other fees are considered refundable. This includes, but is not limited to, the comprehensive student services fee.

Non-Credit Courses
Students registered for workshops through the Divisions of Corporate & Community Education or Centers for Business Training & Development must withdraw in writing at least three days prior to the first workshop session in order to receive a full refund of tuition and fees.

The College President or designee may grant a tuition refund or tuition credit under extenuating circumstances on a case-by-case basis, such as military activation, administrative error or documented long term illness. In order to receive a tuition credit, supporting information such as physician's note, hospital confirmation, military assignment, etc. must be provided. Students wishing to be considered for an exception must still complete the add/drop form. The complete procedures for students with extenuating circumstances can be obtained in the Business Office.

Return of Title IV Funds: Mandated by Law
Students who withdraw from school before the 60% point in a semester will have to repay a portion or all of their Federal Pell Grant, Federal SEOG grant, and Federal Perkins Loan funds to the United States Department of Education. In terms of Federal Family Education Loans (Stafford student loans) the unearned portion of the loan money will be returned to the student's lender. The exact amount required to be returned will vary depending on the amount of grant and loan money the student received and at what point in time the student withdraws from the College.

In addition, the student will be liable for the balance owed the College for tuition, fees and if applicable, room and board. The student will receive a revised statement of account for the expenses incurred, which will include the reduction and/or loss of Federal Title IV funds.

NOTE: Federal Stafford Loans (FFELP). If a student is in the first year of an undergraduate program, is a first-time borrower under the FFEL Program (Stafford Loan), and withdraws from the college prior to 30 days into the term, the student becomes INELIGIBLE for the Stafford Loan.

Students who choose to withdraw from the College must complete a College Withdrawal Form. This form must be signed by the student and various campus offices and then be returned to the Registrar's office.

Academic Policies

I. Degree Requirements

ASSOCIATE OF ARTS DEGREE (A.A)
Programs leading to this degree provide students with continuous education and career mobility and full participation in community life. The program is also consistent with the objectives to provide an educational background that is broad enough for the student to continue his/her education and training according to their and society's changing needs, and to provide the student with an educational experience ensuring flexibility of occupational choice. It also serves students who plan on directly entering the workforce or enhancing their career mobility by providing a planned sequence of arts and sciences courses that not only give the students the core competency skills required by today's business, but the ability to learn how to learn, thereby enhancing workers with flexibility and retraining for new and unanticipated application of knowledge and skills.

The Liberal Arts program offers the equivalent of the first two years in a four-year Bachelor of Arts or Bachelor of Science program. The program is flexible; students select courses based on the requirements of the four-year college to which they plan to transfer. Upon completion of the Liberal Arts program, the student should have an academic background sufficient to transfer into a baccalaureate degree program as well as to provide a foundation for the acquisition of skills and ability to learn how to learn in the workplace for entry level jobs requiring a broader base of arts and sciences and career mobility.

The New Hampshire Community Technical College System offers two types of Associate in Arts degrees; one which focuses on a general liberal arts education and the other which is developed for specialized transfer designed by the offering college. The Associate in Arts Degree program requires a minimum of 64 credits as follows:

Associate in Arts Degree - general liberal arts education
(see Program of Study section within Liberal Arts for specific NHCTC-Manchester degree requirements)

English Composition	3-4 credits
English Electives	3-4 credits
Foreign Language/Humanities/Fine Arts	9 credits
Mathematics	6-8 credits
Lab Science	8 credits
Social Science	9 credits
Liberal Arts Electives	15 credits
Open Electives*	9-12 credits
Total Credits	**64 credits**

** A computer literacy course may be included within the open elective area.*

Associate in Arts Degree - specialized transfer
NHCTC-Manchester offers specialized Liberal Arts transfer degrees in American Studies, Business and Teacher Preparation. (See the Program of Study section for specific degree requirements.)

English Composition	3-4 credits
English Electives	3-4 credits
Humanities/Fine Arts/Foreign Language	9 credits
Mathematics	6-8 credits
Lab Science	8 credits
Social Sciences	9 credits
Electives in specialized area of study	20 credits
Liberal Arts or Open Electives*	2-5 credits
Total Credits	**64 credits**

** A computer literacy course may be included within the open elective area.*

ASSOCIATE IN SCIENCE DEGREE (A.S.)
Programs leading to this degree include courses consisting of a minimum of 32 credits of specialized technical-occupational education and a minimum of 24 credits in General Education. Such programs provide direct entry into employment and transfer into the follow-on baccalaureate component of the Associate Degree level technical-occupational curriculum.

The Associate in Science shall provide:
a. A minimum of 32 credits of specialized study in courses clearly identifiable with the technical skills, proficiency, and knowledge required for career competency.
b. A minimum of 24 credits in General Education. Courses fall into the areas as follows:

	Minimum
1. English Composition and Literature	6 credits
2. Science	3 credits
3. Math	3 credits
4. Social Science	3 credits
5. Foreign Language/Humanities/Fine Arts	3 credits
6. Liberal Arts electives	6 credits

ASSOCIATE IN APPLIED SCIENCE DEGREE (A.A.S.)
Programs leading to this degree include courses consisting of a minimum of 32 credits of specialized technical-occupational education, and a minimum of 21 credits of General Education. Such programs emphasize specific outcomes designed to meet competencies required for direct entry into employment and to provide a basis for transfer, at a minimum, of the General Education component of the curriculum.

Although Associate in Applied Science (A.A.S.) degree programs are designed for direct entry into the workforce, they cannot be considered terminal. In addition to the necessity for lifelong learning in response to the rapidly changing technologies, students can expect to make several career changes during their lifetime. A.A.S. programs do not have a directly related occupational specific curriculum upper-division component. It should be noted, however, that some Bachelor's degree institutions have developed upper-division programs to recognize this degree for transfer purposes.

The A.A.S. Degree programs shall provide:
a. A minimum of 32 credits of specialized study in courses clearly identifiable with technical skills, proficiency, and knowledge required for career competency.
b. A minimum of 21 credits in General Education. Courses fall into the following areas:

1. English Composition and Literature and/ or Communication	6 credits
2. Science	3-4 credits
3. Math	3-4 credits
4. Social Science	3 credits
5. Foreign Language/Humanities/Fine Arts	3 credits
6. Liberal Arts electives	3 credits

Performance-Based Learning
NHCTC has identified competencies which must be attained in each degree program. Students will be awarded the Associate Degree upon completion of academic requirements and demonstration that those required program competencies have been achieved.

II. Professional Certificate Requirements

Professional Certificates are granted in selected programs with a defined curriculum having a minimum of 32 credits.

III. Student Academic Classifications

Each student is expected to demonstrate orderly progress in completing his/her educational objective at NHCTC. To help clarify each student's status at NHCTC, students are assigned to one of the following categories.

1. **Full-time student** - a person who is enrolled in 12 or more semester credit hours.

2. **Part-time student -** a person who is enrolled in fewer than 12 semester credit hours.

3. **Matriculated student** - a student who has been accepted/ admitted to a certificate, professional certificates, or degree program on a full-time or part-time basis. (Matriculated status is maintained by taking at least one course per academic year; otherwise a candidate will be required to re-apply for admission and abide by any new academic requirements in force at that date.)

   Requirements for graduation are defined by the program of study to which students have been admitted at the time of matriculation.

4. **Non-matriculated student** - a student who is taking either credit or non-credit courses, but has not been formally accepted/ admitted to a certificate, professional certificate, or degree program.

IV. Academic Record

Attendance Policy
It is the responsibility of NHCTC students to attend all classes, laboratory sessions, and clinical/co-op affiliations. Students must recognize that absence will interfere with academic success in their program of study. The instructor will be responsible for informing students of the attendance policy at the beginning of each course.

The College requires faculty to verify student attendance three times within a term: at the first class meeting of each term, at the conclusion of the Add/Drop period of each term and at the midpoint of each term.

The College requires an instructor who has had no contact with a student for two consecutive weeks during the first 60% of a class to immediately process a withdrawal of that student through the Registrar's Office, indicating the last date of attendance on the withdrawal form. Any class that meets less than 16 weeks will follow a prorated timeline.

The College requires an instructor have a published attendance policy. When applicable, the instructor is required to formally withdraw any student who has violated the instructor's attendance policy at any time during a term, indicating the last date of attendance, using the withdrawal form prescribed by the Registrar's Office.

Auditing Courses
Under the Audit policy, students may enroll in courses which provide an opportunity to learn more about the challenges of college work, explore a discipline of interest, refresh prior learning, or supplement existing knowledge. Typically, a student attends lectures, seminars and/or labs but does not complete graded assignments. When enrolled as an audit, the student will not be given a final grade nor will credit towards graduation be given for the course (the academic transcript will reflect AU for the course). *Students must pay full tuition for the course. Financial Aid does not cover costs for an audited course.*

Not all courses can be taken for audit, and entry into a course as an auditing student is by permission of the instructor. A student must complete a registration as an audit during the first week of classes. Once admitted as an audit, the student may not change to credit status, likewise, a student registered for credit may not change to audit status.

Change of Program
Students wishing to change their major should submit a change of major form to the Admissions Office. Credit will be transferred only for those courses that apply to the new program. Some programs with limited enrollment may not be available.

Changing Course Requirements
The college is constantly reviewing and upgrading the content of programs offered to assure that each graduate receives adequate knowledge and training to perform competently in a chosen technical field. To accomplish this, the college reserves the right to modify course requirements based on its educational and professional objectives and the needs of its students.

Course Repeat
For purposes of calculating the cumulative GPA (CGPA), when a student repeats a course at the same NHCTC institution the grade achieved in the most recent course will be the grade used in the CGPA calculation. All previous grades will remain on the transcript but not used in the calculation. Only those repeated courses completed at the student's college of matriculation will be used in the calculation of the CGPA; repeated courses completed at an institution outside of the student's college of matriculation and transferred into the student's college of matriculation will not be used in the calculation of the CGPA.

Grading
Students are assigned grades based upon evaluations of their work. Grades are given at the end of each semester and are based on criteria listed on an individual instructor's syllabus, but generally include quizzes, tests, projects and participation. Standards for grades are listed below. Clinical grades are recorded on a pass/fail basis and are not part of the grade point average.

Letter	Quality	Letter		Quality
A	4.0	AF	Administrative Failure	0.0
A-	3.7	AU	Audit	0.0
B+	3.3	AW	Administrative Withdrawal	0.0
B	3.0	CS	Continuing Study	0.0
B-	2.7	I	Incomplete	0.0
C+	2.3	NP	No Pass	0.0
C	2.0	P	Pass	0.0
C-	1.7	W	Withdraw	0.0
D+	1.3	WF	Withdraw Failing	0.0
D	1.0	WP	Withdraw Passing	0.0
D-	0.7			
F	0.0			

Explanation of Grades: AF, AU, AW, CS, I, NP, P, W, WF, WP

AF: Instructor or administrator initiated withdrawal at any time for reasons other than poor grade performance-e.g., failure to meet attendance requirements, as published in the instructor's syllabus, violation of the Student Code of Conduct, disruptive behavior, etc. The grade may also be issued if a student registered in a clinic, practicum, internship or lab is deemed unsafe or performing in an unsatisfactory manner as determined by an evaluation by a faculty member/agency supervisor in accordance with department criteria and procedure. AF is calculated in the GPA as an "F."

AU: A course taken as an audit does not earn credit and cannot be used to meet graduation requirements. Admission by permission of the instructor. Not all courses can be taken for audit. See *Auditing Courses.*

AW: Faculty initiated withdrawal from a course as a result of the

student's failure to meet attendance requirements as published in the instructor's syllabus or as defined by the NHCTC System policy regarding financial aid tracking. This grade must be issued by the last day to withdraw with a "W" grade (60% of the course) and does not affect the GPA; cannot be administered after 60% of the course has been completed.

CS: Continuing Study. This grade allows a student to re-register for a developmental course if competencies have not been met by the end of the course. It is intended for students who have demonstrated progress and a commitment to succeeding in the course but who need more time to achieve competencies. The CS grade does not affect the student's GPA.

I: Incomplete grade. Indicates that a student has not completed a major course assignment due to extraordinary circumstances. It is not used to give an extension of time for a student delinquent in meeting course responsibilities. The I grade is not calculated into the GPA. However, all work must be completed by the end of the third week of the subsequent semester or the grade defaults to an F. See *Incomplete Grades*.

NP: No Pass; unsatisfactory work; not calculated into the GPA.

P: Pass; not calculated into the GPA.

W: Student initiated withdrawal from a course at any time prior to completion of the drop deadline (60% of the course) which does not affect the GPA.

WP: Student initiated withdrawal from a course after the drop deadline (60% of the course); the student must have a passing grade at the time of the drop, as determined by the instructor and does not affect the GPA.

WF: Student initiated withdrawal from a course after the drop deadline (60% of the course); student has a failing grade at time of drop, as determined by the instructor. The WF grade is calculated in the GPA as an "F."

Grade Point Averages
Scholastic standing at the end of each semester is determined via the grade point average (GPA), computed by dividing total semester points (grade equivalent multiplied by credit hours) by total credits attempted.

The cumulative grade point average (CGPA) is determined at the end of the second and subsequent semesters by dividing cumulative points by the total credit hours attempted, taking into account all previous work completed. Refer to the Student Handbook for additional information pertaining to calculating or determining GPAs and CGPAs.

Incomplete Grades
An Incomplete Grade (I) indicates that a student has not completed a major course assignment (usually a final exam or culminating final assessment) due to extraordinary circumstances, such as serious illness, death in the family, etc. The grade is applied only in those instances where the student has a reasonable chance of passing. *It is not used to give an extension of time for a student delinquent in meeting course responsibilities.*

The work must be completed by the student through formal arrangement with the instructor no later than:

*the end of the third week in the spring semester for a grade issued in the fall semester;

*the end of the third week in the fall semester for a grade issued in the summer term;

* three weeks from the earliest start date of the summer term for a grade issued in the spring semester.

Should the student fail to complete the work within the designated period, the grade will automatically become an F. Exceptions to the above deadlines may be made by the Vice President of Academic Affairs or his/her designee.

"I" grades will not be included in the computation of the Grade Point Average. An "I" grade may affect a student's financial aid. Students should contact the Financial Aid Office for further information.

Residency Requirement
Students seeking an associate degree, professional certificate or certificate from the college must satisfactorily register for and complete a minimum of 25 percent of course program requirements in attendance at NHCTC- Manchester. At least half of these must be in advanced courses in the student's major field or in appropriate courses in related fields. Advanced courses carry a course number of 200 or higher. Students may not test out of courses in order to fulfill their residency requirement.

Students' Bill of Rights
The college shall provide an environment that fosters academic freedom, ensures the integrity of the academic process, and protects the principle of intellectual diversity. The classroom is a forum for exposing students to scholarly viewpoints. Students will be graded not on the basis of their political, religious or ideological beliefs, but on the basis of their reasoned answers and appropriate knowledge of the subjects and disciplines they study and in accordance with the academic standards set forth in the course syllabus.

V. Adding/Dropping Courses

Before adding or dropping a class or classes, students must consult their Academic Advisor, and/or the instructors responsible for those classes.

Adding a Course
A course may be added at any time prior to the start of the second week of the semester or other prorated timeline. Students remaining in the same course who wish to change their section must do so through formal notification to the Registrar's Office by using the ADD/DROP form with the instructor's approval.

Dropping a Course
The student should initiate the official drop procedure after consultation with his/her faculty advisor. Simply ceasing to attend classes or notifying the instructor does not constitute officially dropping a course.

Though there may be financial or academic penalties involved, courses may be dropped at any time, but only through formal written notification to the Registrar's Office and completion of the following procedure:

Before officially dropping a course, the student should first discuss the matter with the instructor and faculty advisor. If, after discussing the matter with both individuals, the student decides to drop, an ADD/DROP form should be obtained from the Registrar's Office. The form must be completed by the student and submitted to the Registrar's Office. Any student who officially drops from a course...

1. any time prior to the start of the second week of the semester, will receive no grade in the course, and no notation will appear on his/her academic record.
2. up to the end of the tenth (10) week of a semester will receive a "W" grade on his/her transcript.
3. up to ten (10) days prior to the beginning of the final exam period, will receive Withdraw/Pass (W/P) or Withdraw/Fail (W/F) on the transcript. The W/P is not calculated in the GPA. The WF is calculated in the GPA as an "F."
4. When there are fewer than ten (10) class days remaining to the beginning of the final exam period, students will receive an appropriate grade other than W/P or W/F, and that grade will be computed on the transcript in the student's grade point average.

Please note the above timeline is specific to classes that meet 16 weeks. Any class that meets less than 16 weeks will follow a prorated timeline.

If you decide to drop a class….
DO NOT JUST STOP ATTENDING. FILL OUT AN ADD/DROP FORM IN THE REGISTRAR'S OFFICE.

Re-admission to the College
Students who have withdrawn, or who have been suspended by the college, may apply for re-admission. Students may continue to take courses at the college on a non-matriculated basis if space is available. Contact the Admissions Office for more information.

Withdrawal from the College
A student who finds it necessary to withdraw from the college is strongly encouraged to complete the established process, which includes completion of an official withdrawal form (available from the Registrar) and participation in an exit interview with the Vice President of Student and Community Services or his/her designee. The purpose of the exit interview is to communicate the college's academic and financial policies pertinent to the date of withdrawal, and to offer support and academic advisement as needed and desired. Failure to withdraw officially will result in a notation on the student's permanent record: Withdrawn-Not-in-Good-Standing.

VI. Academic Placement Policy

Any student admitted into a degree, professional certificate or certificate program at NHCTC will be required to take placement tests in reading, writing and mathematics. The goal of placement testing is to identify areas of strength and weakness so that appropriate course placements can be made for math and English, or for courses that are impacted by math, English and reading competencies. Students who are not making application to a program are strongly encouraged to take the placement tests in order to meet course prerequisites as well as maximize opportunities for success.

NHCTC's placement policy may be waived, in full or part, for those individuals who have met one or more of the following conditions:

1. Earned a minimum score of 500 on the SAT verbal and a minimum score of 500 on the SAT quantitative.
2. Completed a computer-based placement test (CBT) within the past three years at NHCTC or another accredited postsecondary institution.
3. Transferred to NHCTC a math or English course from another accredited institution.

The online placement tests {ACCUPLACER*} are administered by CAPS and can be done on a drop-in basis during the Center's open hours. ACCUPLACER is a computer-based assessment that is adaptive in nature, carefully selecting questions based on prior responses to get the most information in the least amount of time.

College advisors will use placement scores along with other important information to develop an academic schedule that is right for each student. *Students who elect not to take the placement test, or to enroll in courses that are incompatible with placement or advisor recommendations, will be required to sign a waiver form.*

Any student who has a disability that might interfere with his/her ability to take the assessment independently may request special testing accommodations from the Coordinator for Disability Services. Students who are non-native speakers of the English language may access a variation of the placement test (LOEP) that will determine course placement based on assessed levels of English proficiency.

* ACCUPLACER is a product of College Board, a division of the Educational Testing Service (ETS). Policy adopted: Dec. 3, 2003.

ENGLISH DEPARTMENT PLACEMENT POLICY
ENGL098 is the first in a sequence of developmental courses designed to build the requisite skills for success in ENGL110. The pre-requisite for ENGL 099 is placement or a grade of C or better in ENGL098. To move directly from ENGL098 to ENGL110, the following conditions must be met:

- Minimum grade of B in ENGL098 plus instructor approval *or*
- Accuplacer placement in ENGL110.

VII. Advanced Standing

A matriculated student who is able to present evidence supporting education in one or more courses applicable to the student's program of study may request that those credits/experience be evaluated and applied to graduation requirements. Four methods of gaining advanced standing are as follows:

1. Transfer of credit from another institution;
2. College Level Examination Program (CLEP);
3. Credit by Examination (Internal), or
4. Credit for prior learning experience.

1. Transfer of Credit from Another Institution
Students may transfer credits earned at other accredited institutions for coursework required by their NHCTC major program. It is the student's responsibility to furnish the college with (1) official transcripts of academic courses from **each** college they have attended and (2) catalogs from each institution attended with course descriptions for which transfer credit is sought. Grades of "C" or better in courses judged by the college to be equivalent in nature and content to NHCTC offerings will be accepted. Students seeking a degree/ professional certificate at NHCTC must fulfill residency requirements. A student must have a minimum of 64 credits in order to complete a degree and must complete all required courses for their academic program.

Transfer of a course to this institution does not guarantee transfer of that same course to subsequent institutions. See individual academic program descriptions for specific program transfer policies.

2. College Level Examination Program (CLEP)
Students with previous academic experiences in specific subject areas may choose to earn credits by taking a nationally standardized exam known as CLEP. NHCTC-Manchester is an approved testing site for CLEP, providing examinations in the areas of Composition and Literature, Foreign Languages, Social Sciences, History, Science and Mathematics. A complete list of the CLEP exams accepted for credit by NHCTC, along with corresponding course names and credits, is available in CAPS (Center for Academic Planning and Support).

Successful completion of a CLEP exam is treated as a transfer credit. Students must request that a copy of their scores be sent to NHCTC for review. This request is made to College Board and can be done during or after the exam. Acceptance of CLEP exams for transfer credits will be based on the following criteria:

- The student has earned a passing score as defined by The College Board and the college.
- The student has been accepted into a program.
- There is a course within the student's program of study that is equivalent to the CLEP exam.

Although CLEP credits count towards graduation, CLEP scores are not calculated into a student's GPA or in any way interpreted as a grade. Additionally, CLEP credits may not be applied towards NHCTC's 25% residency requirement. Students may not transfer CLEP credits for a course they have successfully completed or for a course that is more advanced than the subject of the exam. Any student who fails an NHCTC course and wishes to take a CLEP exam in lieu of retaking the course must realize that the original grade received will remain on his/her transcript and will be counted in the CGPA. The CLEP exam score does not replace a grade for an NHCTC Manchester course. Students should speak with their academic advisor if they have questions regarding this process.

CLEP exams are administered on the computer (CLEP CBT) through the Center for Academic Planning and Support. For more information, contact CAPS.

3. Credit by Examination (Internal)
A student presenting evidence supporting previous experience or prior educational preparation in a particular subject area may seek to obtain credit for a course by requesting and completing an examination which covers the instruction, laboratory and/or shop material of the course. If successful, and after paying an established fee, the appropriate credit hours are applied to the student's academic record. A student may not challenge out of more than 50 percent of the degree program. Credit will not be given for grades below C. A student receiving a grade below C is ineligible for another special examination in that course. **Students who have previously taken a course and failed it are not eligible for an examination for credit in that course**. For more information, contact the Office of Academic Affairs.

4. Credit for Prior Learning -- Experiential Learning
Credit for prior learning offers students the opportunity to demonstrate the knowledge they have gained through life experiences and apply this knowledge towards credit in a degree, professional certificate, or certificate program. To prepare for this option, students will develop a portfolio to be assessed by the academic officer and faculty members. A student must be matriculated at NHCTC-Manchester to be eligible to apply for experiential credit. Not all programs provide the experiential credit option; students should consult with their academic advisor.

A request for Credit by Prior Learning should initiate with the faculty advisor or faculty member who normally teaches the course for which you wish to receive credit. After initial discussion, the student should submit a portfolio minimally containing a cover letter and resume, extensive work experience explanations, letters from employers, certificates of accomplishment, samples of work, as well as any other information deemed appropriate. The responsibility of proof will be on the student requesting evaluation. The portfolio is then reviewed by an appropriate faculty member, the department chairperson and the Associate Vice President of Academic Affairs. If credit is granted, the student will be charged a fee for credit for prior learning based on the formula below.

Fee for Credit for Prior Learning - **Experiential Learning:** Students will be assessed a fee based on 50% of the current tuition rate on the total credits awarded (e.g., for 12 credits awarded: 0.50 x current tuition rate x 12 credits).

Transfer to Other Institutions
Transfer policies vary from institution to institution. When transfer to another institution is sought, the number of transfer credits granted for courses completed at NHCTC is determined entirely by the institution to which the student transfers.

VIII. Commencement Requirements

A minimum cumulative grade point average of 2.0 is required to receive a degree, professional certificate, or certificate from NHCTC. In addition, a student must earn a minimum number of college credits as identified by each curriculum. Deviations from this policy due to extenuating circumstances require the approval of the Vice President of Academic Affairs, or in cases of less than 48 hours notice, by the College President. All outstanding monies owed to the College must be paid before the degree, diploma or certificate is awarded. Students are urged to work closely with their academic advisors to insure they are making satisfactory progress toward fulfillment of graduation requirements.

Petition to Graduate
Candidates for graduation from all programs should contact the Registrar in January to complete an Petition to Graduate form. Commencement exercises are held each May.

IX. Academic Standards

The Academic Standards Committee, a subcommittee of the Academic Governance Policy Committee, reviews matriculated student academic records for the purpose of assessing their academic progress and academic standing as defined by the Student Academic Classification published in student and faculty handbooks, the college catalog, and based on the student's assigned classification, the committee may recommend corrective measures that will restore appropriate academic standing.

The committee periodically reviews and updates academic standing policies and submits those recommendations to the College Coordinating Council and the President for final approval.

Membership on the Academic Governance Policy Committee Academic Standards Committee consists of: the Vice President of Academic Affairs or his/her designee, and seven faculty members appointed to staggered three-year terms by the college President or his/her designee. The committee chair is an elected faculty position. Membership should include one representative from the Nursing Program. The seven members are voting members. The Vice President of Student and Community Services or his/her designee also serves on the committee, but as a non-voting member. His/her primary role is that of advisor to the student. As a minimum, meetings are scheduled prior to each semester to accommodate student appeals. They are also scheduled as needed for the purpose of reviewing or developing academic policy.

ACADEMIC STANDING CLASSIFICATIONS

Academic Probation - Students will be placed on Academic Probation when their Cumulative Grade Point Average falls below 2.0 after attempting 12 or more credits. Students whose Grade Point Average for that semester is also below 2.0 will receive a letter of concern indicating their need to seek academic assistance. Students on Academic Probation may not:

1. Hold any elective or appointed office in student or academic organizations.
2. Represent the college in athletics or other co-curricular activities.

Students will remain on Academic Probation until their deficiency is removed. However, if they remain on probation for two consecutive semesters, they are placed on Deferred Status.

Deferred Status - Students remaining on Academic Probation for two consecutive semesters are placed on Deferred Status at the end of the second semester. Deferred Status requires students enroll in a reduced academic load.

Academic Suspension - Students are placed on Academic Suspension when their Cumulative Grade Point Average is 1.0 or below after attempting twelve or more credits, or having earned below 2.0 Cumulative Grade Point Average during their enrollment as a Deferred Status student.

Nursing Readmission Policy - Students matriculated in the Nursing program who withdraw or do not achieve the required minimum grade in the Nursing or science courses and are not able to continue in the Nursing program may be eligible for readmission consideration. A student may be readmitted to the Nursing program one time only. Students who have failed a Nursing course because of unsafe practice involving actions or non-actions are not eligible for readmission to the Nursing program (see Nursing Course Syllabi: Evaluation methods). Readmissions are contingent upon space availability. The student applying for readmission will be required to meet the curriculum requirements in effect at the time of readmission. See Nursing Readmission Policy under Nursing program.

Grade Appeal Procedure - Any appeal of a grade must be initiated by the student with the instructor before an ensuing semester has elapsed. Students should be advised that in most instances a grade may be changed only by the instructor. Only in a case of obvious computational error or blatant abuse of the grading prerogative, can the Vice President of Academic Affairs, the only other individual on campus empowered to change a grade, alter a student's grade. Refer to the *Student Handbook for the Grade Appeal Process.*

Academic Warning - The instructor may give a student an academic warning at any time if the student is failing or in danger of failing a course.

X. Academic Privacy

Family Education Rights and Privacy Act
In compliance with the Family Rights and Privacy Act of 1974 (The Buckley Amendment), it is the policy of the College to protect the educational/academic records of its learners, former learners, and alumni. All personally identifiable information in a learner's educational record is considered confidential. No one will have access to such records without written consent of the learner.

XI. Academic Amnesty

A student who has previously attended NHCTC-Manchester and is admitted at a later time may be eligible for Academic Amnesty, which provides for the following:

1. All grades taken during the student's previous time at the college will no longer be used to calculate the student's new cumulative GPA. However, grades C- and above taken during the student's previous time at college will be used to meet course requirements (where appropriate), subject to the approval of the Vice President of Academic Affairs or his/her designee.

2. Even though previous grades will not be used to calculate the new cumulative GPA, all previous grades will remain on the student's transcript.

In order to be eligible for Academic Amnesty, a student must meet **all** of the following conditions:

1. The student has not taken any courses at the college for a period of at least 3 years from the last semester of attendance.
2. The student applies for Academic Amnesty **at the time of admission.**
3. The student has never before received Academic Amnesty.
4. The student achieved a cumulative GPA below 1.7 during previous attendance.

XII. Additional Associate Degrees

Students may earn additional associate degrees either by concurrent completion of the requirements of the several degrees or by subsequent study after the first degree is received. The requirements for earning additional degrees are as follows:

1. Complete all requirements of each program of study, including general education requirements; and
2. Earns a minimum of 15 additional credits at the college, beyond those required for the first and subsequent degrees.

XIII. Independent Study

Opportunities for credit-bearing Independent Study are available to matriculated students who wish to explore areas of a discipline not covered in the normal curriculum but related to the student's program. Independent Study is not available to non-matriculated students. Matriculated students must have a minimum cumulative GPA of 2.0 to be eligible for an Independent Study.

The intent of the Independent Study is to expand a student's learning experience beyond the normal program curriculum. Typically undertaken for 1-2 credits, an Independent Study may not be done in lieu of any course existing in NHCTC-Manchester's catalogue.
Students wishing to pursue existing NHCTC-Manchester courses on an independent basis should consult the NHCTC-Manchester policy on Directed Study.

XIV. Directed Study

Under certain circumstances a matriculated student may take a course in a semester when the course is not offered, either during the day or through the Division of Community Education. A directed study allows a matriculated student to pursue the published learning objectives/outcomes for a course independently under the guidance of a qualified faculty member. A matriculated student must have a minimum cumulative GPA of 2.0 to be eligible for a Directed Study.

The student must demonstrate compelling reasons why the course could not be taken in a subsequent semester or was not taken in the semester when it was originally offered in the curriculum. Barring exceptional circumstances, a directed study will not be granted for a course currently being offered in the day or DCE divisions.

XV. NHCTC Computer Use Policy

Summary of Acceptable Use Policy for Computing Resources
NH Community Technical College-Manchester.

This document contains guidelines regarding the use of computing and networking facilities located at or operated by NHCTC. The definition of NHCTC computing facilities includes any computer, server or network system or system element provided or supported by NHCTC. Use of the computer facilities includes the use of data/programs stored on NHCTC computing equipment, data/programs stored on magnetic tape, floppy disk, CD ROM or other storage media that is owned and maintained by the NHCTC. The "user" of the system is the person using the systems from any connection point (e.g. a keyboard) locally or by remote access, requesting an account (or accounts) or logging on to an existing account in order to access any NHCTC asset. The purpose of these guidelines is to ensure that all NHCTC students and authorized visitors use the NHCTC computing facilities in an ethical and lawful manner. It is implicitly understood that the NHCTC computing system is a private system and that network monitoring is used to ensure reliable performance and that the integrity of the network is maintained.

1. NHCTC computers are for non-sensitive and non-confidential use only. Students are warned that there is no inherent security in the system; they should not use college systems for any work that should be protected.

2. Individual users are responsible for maintaining their own data. NHCTC is NOT responsible for the integrity of any student data stored on servers or systems maintained by the institution.

3. Users should report any weaknesses in NHCTC computer security and any incidents of possible misuse or violation of this agreement to the proper authorities by contacting the appropriate NHCTC IT Department. Users shall not attempt to access any data or programs contained on the NHCTC network, or any other network accessed, for which they do not have authorization.

4. Users shall not make unauthorized copies of copyrighted software, except as permitted by law or by the owner of the copyright.

5. Users shall not make copies of system configuration files for their own, unauthorized personal use or to provide to other people/ users for unauthorized uses.

6. Users shall not purposely engage in activity with the intent to: harass other users; degrade systems performance; deprive an authorized NHCTC user access to a NHCTC resource; obtain extra resources beyond those allocated; circumvent NHCTC computer security measures or gain access to a NHCTC system for which proper authorization has not been given.

7. Fraudulent, harassing or obscene messages and/or materials shall not be downloaded, viewed, sent to/from or stored on NHCTC systems.

8. To ensure systems and software compatibility and to reduce chances of malicious code infections, users shall not download, install or run any applications programs without first consulting the course instructor.

9. Users will not run from any NHCTC system any software which reveals weaknesses in the security of a system or that can be used as a hacking tool, unless within the guidelines and under the supervision of an NHCTC course. For example, NHCTC users shall not run password-cracking programs on NHCTC computers.

Non-compliance with these requirements constitutes a violation and will be reported to the Chief Campus Officer and the IT Department of the appropriate NHCTC Campus or Center. Violations will be referred to a judicial committee. Serious violations may result in civil or criminal prosecution.

Use of NHCTC computing facilities constitutes implicit acceptance of and agreement with the Acceptable Use Policy for Computing Resources for New Hampshire Community Technical College-Manchester found in the Student Handbook.

XVI. Elective Course Information

In addition to the required courses in a student's program, students are given the choice to select from a variety of elective courses. Each program offers a different set of electives, so please refer to each individual program for specific options. The following information will assist students with the variety of elective categories and the selection of elective courses. All academic subject codes and course numbers refer only to NHCTC-Manchester courses.

English Elective: any course with the academic subject code of ENGL and a course number of at least 100.

Social Science Elective: any course with the academic subject code of AN, ECON, GEOG, HIST, POL, PSYC, SOC, and a course number of at least 100.

Foreign Language/Humanities Elective/Fine Arts: any course with the academic subject code of ARTS, ENGL course listed below*, AMER, ASL, FREN, GERM, HIST120, HIST130, HUMA, PHIL, SPAN, and a course number of at least 100. *ENGL Literature Courses: ENGL114, ENGL127, ENGL200, ENGL209, ENGL218, ENGL220, ENGL221, ENGL222, ENGL223, ENGL224, ENGL225, Other ENGL courses: ENGL113, ENGL210, ENGL213, ENGL214.

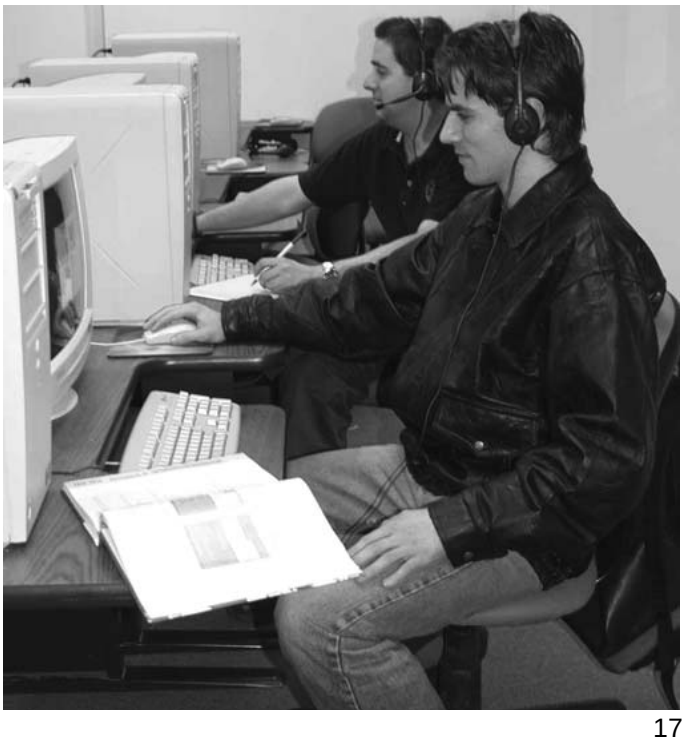
Math Elective: any course with the academic subject code of MATH and a course number of at least 100.

Science Elective: any course with the academic subject code of BIOL, CHEM, ESCI, PHYS and a course number of at least 100.

Liberal Arts Elective: any course listed under the categories of English elective, Social Science elective, Foreign Language/ Humanities/Fine Arts elective, Math elective or Science elective with a course number of at least 100.

Business Elective: any course with the academic subject code of ACCT, BUS, ENT, FINC, MKTG and a course number of at least 100.

Open Elective: any course that the college offers with a course number of at least 100. ESL courses are not considered open electives and cannot be counted toward graduation requirements.



ACADEMIC OPPORTUNITIES

The college provides special academic initiatives designed to enrich students' educational experiences.

HONORS PROGRAM

The college's honors program is designed to challenge the level of the student's performance in the classroom. Courses within the Honors Program will incorporate greater complexity and sophistication in thinking and will be assessed with a higher level of intellectual outcomes.

Developmental courses, courses that do not count toward graduation, or are generally not transferable will not be considered for the honors program. Honors courses or components will be indicated by an Honors designation on a transcript. They do not carry extra credit.

Honors Coursework

Decisions on whether to offer Honors course work in a department or discipline will be made by the department. Honors program courses are not intended have a different set of objectives from similar courses in the discipline. Each department will develop criteria for differences between the honors' curriculum and assessment and regular course curriculum and assessment.

Honors Coursework Placement/Eligibility

A. First-year students wishing to enroll in honors coursework must:

1. Score above '80' in the reading portion of the Accuplacer Test
2. Score above '90' in the writing portion of the Accuplacer Test
3. Score above an '11' on the writing sample of the Accuplacer Test.

B. Current students must adhere to the above scores or have a cumulative grade point average at the NHCTC-MS of 3.5 or higher.

C. Transfer students wishing to enroll in honors coursework must have a minimum of 12 transfer credits and a cumulative grade point average from the transferring institution of 3.5 or higher.

Once a student is designated as 'Honors eligible', he/she may enroll in one of two potential honors curriculum models:

1. Honors Sections of Courses: Sections designated as 'Honors' will be noted in the semester course schedule with the regular course number followed by an "H". For example, an Honors section of College Composition I would be noted as ENGL110H. Additionally, the word 'Honors' will appear in the title of the course. For example, ENGL110H will appear with the title College Composition I - Honors.

2. Honors Components of Regular Courses: A second option exists for students to pursue an honors "component" within a regular course. Typically, these are courses that do not have a high number of sections available each semester. For example, there is typically only one section of HIST205, History of Russia, offered in a given semester. With departmental approval, a student is able to pursue an honors component to a section of the existing section of HIST205.

Students wishing to pursue an Honors component of a regular course must complete an (1) Honors Component Approval Form and an (2) Honors Component Contract. The ability of a student to pursue an Honors component of a regular course must receive departmental approval and cannot be appealed.

LEARNING COMMUNITIES

A learning community is a combination of courses in different disciplines organized around a common theme or a specific cohort group.

- The connection between subject matter in the separate courses is emphasized so that information and skills learned in one class can be applied to the other courses.
- The same students enroll in all of the courses in a learning community. As a result the same students and teachers are together in two or more classes each week. They get to know each other more than students in regular classes and sometimes work together on various projects and help each other learn.
- At the end of the semester, each student gets a grade for each of the courses that are part of the learning community.
- In a variety of college settings and in a number of forms, Learning Community approaches have been shown to increase student retention and academic achievement, increase student involvement and motivation, improve students' time toward degree completion, and enhance educational development.

SERVICE LEARNING

Service learning combines community service with academic instruction. Students enrolled in courses with a "service learning" component as part of the academic experience are guided through a critical analysis of what they observe in the field and what is presented in class. This "service-learning" approach enhances the breadth and depth of student learning in at least three domains:

- academics/higher order cognitive skills
- life skills
- sense of civic responsibility and ability to be an effective member of the communities where they will reside after graduation.

The service-learning program focuses on promoting service learning as an effective teaching strategy within the existing curricula of the college. Course learning outcomes are the basis for integrating projects that serve the college or the community at large. In order to preserve the academic integrity of a service-learning opportunity, students are not graded on simply "putting in the hours." Rather, they are graded on specific assignments and/or projects that demonstrate learning from the service-learning experience. Some courses will provide built-in experiential projects; others will require the student to identify his/her own project. Service learning activities have been demonstrated as positive learning experiences for both students and faculty.

Academic Support Services

CENTER FOR ACADEMIC PLANNING AND SUPPORT (CAPS)
Academic planning and support services are available to both student and community members through The Center for Academic Planning and Support (CAPS). Services include: peer and professional tutoring, computerized instruction, workshops, disability and ESL/ESOL support services, international student advising, career exploration,transfer counseling, academic counseling and assessment. Support is also available in the Center's "open lab" where computer proctors are "on call" to help students with homework assignments and special projects.

Students are encouraged to visit CAPS during their first week of classes to familiarize themselves with CAPS services and staff. There is no charge to students enrolled in credit-bearing courses. Community members may access the Center on a fee-per-service basis.

Hours of Operation:
Monday - Thursday 8 a.m. to 8 p.m.
Friday 8 a.m. to 4 p.m.
Saturday 10 a.m. to 2 p.m. (fall and spring semesters only)
For more information, or to receive a brochure, call 603-668-6706 ext. 314. *Please be aware that not all services offered in Manchester are available at the Derry Campus.

Academic Advising and Counseling
The goal of advising is to assist students to create academic plans that will lead to the successful realization of their educational goals. Through conversation, assessment, goal setting, and strategic planning, students are empowered to create academic schedules that reflect their interests, skills and obligations to family, work, and/or community.

The process of advising at NHCTC is characterized by communication and connection between the student and his/her advisor. It is through a mutual exchange of questions and information that ideas and solutions are generated. The advisor-advisee relationship is potentially one of the most significant partnerships a student will experience at NHCTC. Students are encouraged at all times to seek out their advisor to ask questions, share concerns, get help, plan for the future, or simply to "check-in."

New students are advised by CAPS (Center for Academic Planning and Support) and returning students who have attended one or more semesters are advised by their program faculty advisor. CAPS will assist new students in connecting with their faculty advisors during their first semester, either at orientation or later in the semester. In some cases, CAPS will continue to work cooperatively with the student and his/her program faculty to address key issues; e.g., visa and legal status, academic skill building, career choices, transfer options, disability support, study and organizational skills, financial aid, cultural counseling, and life management. When necessary, students are referred to outside agencies for further assistance.

Academic Placement Policy
Any student admitted into a program at NHCTC will be required to take placement tests in reading, writing and mathematics. The goal of placement testing is to identify areas of strength and weakness so that appropriate course placements can be made for math and English, or for courses impacted by math, English and reading competencies. Students who are not applying to a program are still encouraged to take the test to meet course prerequisites as well as maximize opportunities for success.

NHCTC's placement policy may be waived, in full or part, for those individuals who have met one or more of the following conditions:

1. Earned a minimum score of 500 on the SAT verbal and a minimum score of 500 on the SAT quantitative.
2. Completed a computer-based placement test (CBT) within the past three years at NHCTC or another accredited post-secondary institution.
3. Transferred to NHCTC a math or English course from another accredited institution.

The online placement tests (ACCUPLACER*) are administered by CAPS and can be done on a drop in basis during the Center's open hours. ACCUPLACER is a computer-based assessment that is adaptive in nature, carefully selecting questions based on prior responses to get the most information in the least amount of time. College advisors will use placement scores along with other important information to develop an academic schedule that is right for each student.

Any student who has a disability that might interfere with his/her ability to take the assessment independently may request special testing accommodations from the Coordinator for Disability Services. Students who are non-native speakers of the English language may access a variation of the placement test (LOEP) that will determine course placement based on assessed levels of English proficiency.

* ACCUPLACER is a product of College Board, a division of the Educational Testing Service (ETS). Policy adopted Dec. 3, 2003.

English Department Placement Policy
ENGL098 is the first in a sequence of developmental courses designed to build the requisite skills for success in ENGL110. The prerequisite for ENGL099 is placement or a grade of C or better in ENGL098. To move directly from ENGL098 to ENGL110, the following conditions must be met: minimum grade of B in ENGL098 plus instructor approval OR Accuplacer placement in ENGL110.

Project Stride
Project STRIDE is an education grant for single parents, displaced homemakers and single pregnant women. The program is designed to provide career assessment, personal, group and academic support. Funds may be available through this program to help with books, tuition, fees, and supplies. Students apply annually for this grant.

Career Development
The Center for Academic Planning and Support (CAPS) provides students with career counseling, career advisement, help with choosing a major, and employment-seeking strategies. CAPS houses a computerized guidance system, CHOICES, which allows students to explore different career paths and make informed decisions based on numerous factors, to include interest, ability, and financial need. Students and graduates are also encouraged to access the community "One-Stops" (NH Works) for additional assistance with their job search.

Disabilities Support Services
Under the Americans with Disabilities Act (ADA) of 1990 and Section 504 of the Rehabilitation Act of 1973, individuals with disabilities are protected from discrimination and entitled to academic adjustments with appropriate documentation. Students are entitled to equal access to programs and services for which they are otherwise qualified. Disability Support Services are available to NHCTC students with documented disabilities through the campus coordinator of disability services. NHCTC- Manchester has a responsibility to maintain confidentiality of the documentation and may not release any part of the documentation without the student's informed consent or under compulsion of legal process. As each student's needs are unique, the provisions of services are designed individually each semester. Change to academic adjustments are determined by the nature of the disability, requirements of the curriculum or program of study, expectations in the classroom and the timeliness of the request.

NHCTC's Section 504 and Title II Grievance Policies and Procedures

Appeal Process for a Student Denied Disability Services:

Students denied disability services may submit a written appeal of the decision to the NHCTC- Manchester, Director of the Center of Academic Planning and Support and the Vice President of Academic Affairs, within 10 working days of the receipt of the decision from the Disabilities Counselor. If the student does not agree with the decision of the Director of the Center of Academic Planning and Support and the Vice President of Academic Affairs, the student may submit the written appeal to the President NHCTC-Manchester. The original documentation and recommendation of the Disabilities Counselor will be reviewed by the President (designee) of NHCTC-Manchester who will communicate his/her decision in writing within 15 working days of receipt of the written appeal. The student may appeal this decision to the Commissioner of the New Hampshire Regional Community Technical College System.

Inquiries may also be directed to the US Department of Education, Office of Civil Rights, J. W. McCormack Post Office and Courthouse, Room 701, 01-0061, Boston MA. 02109-4557; 617-223-9662, TDD: 617-223-9695.

English as a Second Language (ESL) and International Services
ESL and international students are provided with academic support and advising services. For ESL students, this includes individual help and computer assistance to improve skills in oral and written communication, reading, study skills, and test preparation, tutoring in academic subjects, and both formal and informal language proficiency evaluation. For international students this includes advising on immigration status, employment eligibility, health insurance, travel, taxes, and legal referral. Students are encouraged to discuss any cultural, social and professional concerns with the ESL/International counselor. Besides classes, NHCTC also has many organizations and activities in which all students can participate to promote cross-cultural understanding.

Workshops
"Brown Bag" workshops occur on a regular basis throughout the academic year. Topics vary, but primarily focus on academic, career, transfer, technology, and life management skills. Call the Center for Academic Planning and Support at 668-6706 ext. 294 for a schedule.

JOBS FOR NH GRADUATES (JNHG) -
Out of School Youth Program
In partnership with NHCTC- Manchester, Jobs for New Hampshire's Graduates is a non-profit organization that is committed to change the lives of young people by raising awareness of the future, increasing leadership skills that promote educational success and developing conscious personal and career choices through a collaboration with parents, schools, employers and community organizations.

JNHG is a school-to-work transition program focused on helping at-risk youth attain their GED and either find employment or continue their education.

The components of the JNHG program are:
1. Classroom Instruction. A trained "Career Specialist" provides individual and group instruction to 25-28 students carefully selected for the program by an in-school advisory committee, typically comprised of faculty, administrators and counselors.
2. Employability Skills. The curriculum equips participants with 37 employability competencies that will prepare them for the workplace.
3. Adult Mentoring. Mentors provide individual attention to students to overcome barriers that prevent them from taking advantage of their education, completing requirements for a GED and/or securing employment or pursuing a postsecondary education leading to a career.
4. Advisement and Support. Specialists provide advice and support as students make significant career and life decisions based on the individual needs of students. Specialists connect participants to professional counseling services to address more serious barriers, such as mental health problems, substance abuse, etc.
5. Summer Employment Training. Job placement services are provided to students during the summer months and partnerships are developed with summer youth employment programs to support year-long learning.
6 Student-Led Leadership Development. A highly motivating student-led organization, the National Career Association builds on the competency-based curriculum and provides opportunities for students to develop, practice and refine their leadership and teaming skills. Participants are provided the opportunity to participate in regional and state Career Development Conferences offering general sessions, career workshops and competitive events. The competitions are aligned with the core competencies attained by all who complete the program.
7. Job and Postsecondary Education Placement Services. Specialists are actively involved in intensive, one-on-one employer marketing and job development activities to identify entry-level job opportunities for students after GED completion. Likewise, specialists assist graduates in the exploration of postsecondary education opportunities and show them how to navigate the financial aid process to pursue these opportunities.
8. Linkages to School and Community-Based Services. JNHG programs serve as a school-based "one-stop center" for targeted youth to deliver academic and social services using school and community resources.
9. 12-Month Follow-up Services. JNHG provides no less than 12 months of follow-up services and support on the job or in a pursuit of a postsecondary education after completion of a GED.
10. Professional Development. Continuous improvement through the ongoing professional development of managers, supervisors and specialists is an ongoing service provided to state and local affiliates.
11. Activity-based classroom instruction. The JAG National Curriculum consists of 81 activity-based and competency-based modules providing more than 810 hours of classroom instruction. Each module provides a math and reading assignment to improve basic skills. A pre- and post-test assessment provides a method for documenting competency attainment.
12. Motivation is key to achieving success. A variety of techniques are used to create a learning environment that is motivating to young people. The most unique technique is the use of a student-led organization (called the Programs and the Professional Association for Dropout Recovery Programs). Chapter activities provide a laboratory for participants to develop, practice and refine their personal, leadership and teaming skills that are critical to success in the workplace and in pursuit of a postsecondary education.

Who is eligible for JNHG OSY?
Young men and women ages 16-21 who have not earned a GED or graduated from high school and are New Hampshire residents. Out of School Youth Programs are located at the New Hampshire Community Technical Colleges in Manchester, Laconia, Berlin and Stratham. Certain eligibility guidelines do apply. For more information, call Manchester at 603-668-6706.

This is a program of Jobs for New Hampshire's Graduates, Incorporated, primarily funded by the Workforce Investment Act in partnership with the NHCTC System Equal Opportunity and Americans with Disabilities Act.

LEARNING RESOURCES CENTERS (LIBRARY)
The Learning Resources Centers (LRC) support the teaching and learning activities of the NHCTC and provide informational services for NH residents. A full range of library services is available, including: circulation of our 27,000 volume library and 225+ current periodical subscriptions for browsing and research, remote access to information provided by 15 databases, instructor reserves, informational research reference, bibliographic instruction, photocopying, free access to the Internet and Interlibrary Loan. The collection also includes audiocassettes, videos, pamphlet materials and microfiche.
With a valid college ID card, students have access to the Manchester Public Library and The University System Libraries, (UNH Durham, UNH/ Manchester, Granite State College, Plymouth State University, and Keene State College) with their 1,000,000 + volume circulating collection.

TRANSCRIPTS
Copies of official transcripts are provided for a $3.00 per copy fee. An additional $5.00 per transcript is charged if the transcript is to be faxed to the recipient. There is no fee to send a transcript within the New Hampshire Community Technical College System. A student's transcript is private information. No third party may receive a copy of a student's transcript without the student's written consent. Student accounts must be paid in full in order to receive a transcript.

TRIO/STUDENT SUPPORT SERVICES
TRIO/Student Support Services is a federally funded grant program located at NHCTC-Manchester. The program's mission is to support students who are either low-income, first generation college students (neither parent graduated with a Bachelor degree before the student reached their eighteenth birthday) or students with disabilities. Students must be accepted into an academic program, enrolled in at least six credits and have applied for financial aid in order to receive services.

TRIO/SSS services include:

Academic support
Workshops on study skills and resume writing
Career counseling
Cultural trips
Transfer college exploration
Personal counseling
Mentoring

Students can obtain applications for the TRIO/SSS program through the Admissions office or by contacting the TRIO/SSS program directly at 668-6706 x 216 in Manchester. Applications are accepted for fall semester.

Student Services

Bookstore
The college contracts with a private vendor to run our campus bookstore. The bookstore is stocked with textbooks, supplies, novelty items, and college clothing articles. Students who have questions about pricing, books, or any issues should direct their inquiries directly to the NHCTC-Manchester bookstore at (603) 622-9941.

Bus Service
NHCTC Manchester students ride Manchester Transit Authority buses free with their valid college ID Card. Bus service is available Monday-Friday. Schedules are available in the Student Services Office.

Cafeteria
The college contracts with a private vendor to run the cafeteria. The cafeteria is located on the main floor. Students can buy hot or cold foods, drinks, and pastries. The cafeteria hours are posted each semester. Meals are available at reasonable prices, and vending machines are available when the grill is closed.

Housing and Living Expenses
The college does not maintain residence halls or assume responsibility for housing. Students are advised to check on campus to see if any information about local housing options have been made available or has been posted. Arrangements and contracts for housing are solely between the student and the landlord.

Insurance
A special accident and illness insurance policy is available to all students enrolled with the NHCTC System. Enrollment information is provided through a mailing during the summer months or at new student orientation. The basic policy covers illness and accidents occurring in and out of school. Other details are available within the policy information. The college is not liable for personal injuries incurred by students who are in attendance. Students are encouraged to either provide their own coverage or purchase the insurance provided by the System.

Students enrolled in programs in the Department of Human Services must have some form of accident and illness insurance. Information regarding this coverage is available in the Business Office.

All Nursing and Allied Health Students who have a clinical must have accident and illness insurance, as well as professional liability coverage. Information regarding this professional liability coverage is available in the Nursing Department.

All students who wish to participate in intercollegiate athletics must produce evidence of enrollment in an accident insurance policy.

Student Handbook
The college's student handbook is available to all students on the college website as well as on-campus through the Student Services Office or the Center for Academic Planning and Support (CAPS). The student handbook documents academic and student policies and procedures. Students are responsible to be familiar with the information in the student handbook.

Student Life

Student Life Mission Statement
Student life implements programming, events and cultural experiences in order to provide students with:

- A sense of empowerment
- A voice in determining their future
- Leadership development
- Career exploration
- Exposure to new experiences
- A sense of self
- Opportunities for play and recreation
- Assistance in developing a connection to campus and community

Fully aware that the value of the college experience for each student is greatly affected by personal needs and interests, the administration and faculty of the college regard student life as an integral part of the total education program.

Students are encouraged to take advantage of the social, athletic and community service activities offered by the college. The college believes the rewards of meaningful relationships, development of skills gained through participation as a student leader, and the many benefits of athletic activity are an important part of the collegiate experience.

Athletics
NHCTC participates in the Northern New England Small College Conference, which includes the NHCTCs and the New Hampshire Technical Institute. Schedules are arranged each year for competition among league teams in soccer, basketball, baseball and volleyball.

College participation in intercollegiate competition will be determined by enthusiasm and interest generated within the student body and varies from year to year. Club sports are formed as an alternative in some instances. The Student Senate and the college sponsor all activities.

Students must be enrolled and in good standing to be eligible to participate in any athletic program. Also, students must have on file a doctor's statement of that student's satisfactory physical condition as well as proof of health and accident insurance coverage for league play.

Interested students can contact Dave Pichette who serves as Athletic Director for the Manchester Campus, 603-668-6706 ext 232.

Campus Activities Board
A Campus Activities Board (CAB) serves on the Manchester campus, which sponsors and supports activities which reflect the mission of Student Life and are open to the entire student body. Examples of events that have been sponsored are Welcome Week, Finals Stress Busters, New York City bus trip, Wellness Fair, and Harvest Fest. They regularly sponsor a variety of entertainment, novelty events, and educational speakers. CAB Members are exposed to national college touring acts, as well as develop programming and leadership skills, by attending the NACA Northeast Conference each fall.

Clubs
Students are encouraged to enjoy other interests, both social and academic, at the college through participation in the variety of student organizations. The clubs are dependent upon student interests. Curriculum related groups, such as the Student Nurses' Association, Accounting Club, Early Childhood Education Club, Building Construction Club, and the Medical Assistant Club are currently active on campus. The Tech Racing Team shares interests in cars and racing. The GLBTQA is a support group with monthly meetings and events. The International Club sponsors events that raise awareness and understanding of different cultures. In many cases, students from another campus are welcome to join the active organization.

Community Service
Students at NHCTC-Manchester are involved in community service projects both on campus and in the local community. Recent projects have included: Hunger and Homelessness Awareness Week, Fall Clothing Drive, Holiday Toy Drive, Family Holiday Party and Food Drive. Students of the College are involved in ongoing projects with Families First, Gossler Park Elementary School, and Manchester Community Resource Center. In addition, there are Alternative Spring Break service trips for students to participate in through Habitat for Humanity or other service organizations.

Students are offered leadership positions through the National Service Program, AmeriCorps. AmeriCorps Student Service Leaders receive an educational stipend of $1,000 upon completion of 300 hours of service. Positions are limited and an application process is required.

Fitness Center
Students, faculty and staff are invited to use the Manchester campus Fitness Center. There is no charge to use these well-equipped and professionally staffed centers. Fitness Specialists provide assessment, program design, personal training nutrition assessment, fitness classes, and a friendly and safe workout environment. Fitness Center hours are posted each semester, and may change based on usage patterns.

Kappa Beta Delta
The Alpha Iota chapter of Kappa Beta Delta National Honor Society is for business majors who have shown academic excellence (cumulative GPA of at least 3.5) and achieved the standards of the society. Annual membership is by invitation to those business students who have met the criteria.

Phi Theta Kappa
The Alpha Pi Rho chapter of Phi Theta Kappa, the national honor society for two-year colleges, recognizes scholarship, leadership, and service at the college. Invitations for membership are extended twice a year to associate degree candidates who have at least a 3.5 cumulative grade point average (minimum of 15 credits earned at NHCTC) and have demonstrated leadership and service. Students must maintain a 3.0 CGPA once they are inducted into the organization.

Student Senate
The Student Senate serves as the governing group for the student body. Senate allocates funds to recognized student groups, acts as the student voice, and forms committees to work on projects that improve the student experience on campus. With the Department of Student Life, Senate supports the success of all of the student groups through leadership and community building activities. Student Senate elections are held early in the fall with representatives elected from each degree program. All curricula are represented through a peer election process. Representatives must be matriculated students in good standing. Senate meetings are held bi-weekly. Although only Representatives can vote on proposals, these meetings are open to all members of the student body and your input is welcome.

Student Ambassador Program
The Student Ambassador Program is designed to provide the Admissions Office and the College in general with a body of volunteers who are trained and prepared to represent the College at functions that involve the outside community. These functions could include campus tours, Information Nights, Orientations, Open Houses, Counselor Breakfasts and a variety of other outreach activities. These volunteers are selected from the general student body through recommendations and a selection process made by faculty and staff.

The Vanguard
Each spring the College publishes The Vanguard literary magazine. Students from both campus sites and curriculums are invited to contribute materials to be included. The editorial staff is comprised of students.

The New Hampshire Community Technical College at Manchester has been granted Accreditation from the New England Association of Schools & Colleges, Inc.'s Commission on Institutions of Higher Education.

As a comprehensive community technical college, NHCTC has developed partnerships with public and private four-year institutions both in and out of New Hampshire. These partnerships include a range of articulation agreements such as dictionaries of transferable courses and their equivalencies, sample plans of study toward a particular major, 2+2s, which allow NHCTC students junior status and/or dual admission.

Individual courses also transfer to many institutions as long as the student has received a grade of C or better and meets all other admission requirements of the receiving institution. See the section on Project Running Start (page 24) for a list of colleges and universities that have accepted our courses.

Following is a partial list of transfer opportunities and articulation agreements by program. For more information regarding these agreements, contact the Department Chairperson.

BUILDING CONSTRUCTION
UMASS Amherst

BUSINESS STUDIES
Franklin Pierce College
Plymouth State University
Rivier College
Southern NH University
UNH Manchester
UNH Durham

EARLY CHILDHOOD EDUCATION
Plymouth State University
Southern NH University

HEATING, VENTILATION & AIR CONDITIONING
Ferris State University

HUMAN SERVICES
Springfield College
Plymouth State University

LIBERAL ARTS
Daniel Webster College
Franklin Pierce College
Franklin University
Southern NH University
UNH Manchester

NURSING
Emmanual College
Endicott College
St. Anselm's College (required liberal arts courses)
St. Joseph's School of Nursing
University of New Hampshire

TEACHER PREP
Keene State College
Plymouth State University
Southern NH University

TECHNICAL PROGRAMS
Granite State College
Southern NH University

WELDING
Ferris State University

Corporate & Community Education and Training

MISSION AND VISION
Corporate and Community Education and Training is a market-responsive component of NHCTC. Its vision is to foster strategic partnerships that lead to quality, learner-centered professional and personal growth opportunities.

COMMUNITY EDUCATION
Community Education is one of the college's primary goals. Since the fall of 1969, NHCTC has been committed to offering non-degree learning opportunities. More than 60,000 individuals have participated in one or more non-credit workshops and/or seminars.

Non-Credit Offerings
Throughout each year a wide assortment of non-credit courses and workshops are offered. They include:

- summer science camps for elementary/middle school students
- foreign languages
- supervisor speaker series
- electrical wiring for homeowners
- computer skills
- motorcycle maintenance
- cultural awareness
- dance
- small business skills
- English for speakers of other languages
- communication skills
- grant writing and fundraising

CENTER FOR TRAINING AND BUSINESS DEVELOPMENT MANCHESTER
The Center for Training and Business Development (CTBD) is committed to creating strategic partnerships with business, industry, healthcare, government, education and community service agencies to deliver customized education and training programs that are designed to improve individual and organizational performance, support economic development, and promote successful global competition.

Professional Development and Re-Certification
Many professions require additional education to maintain licenses or certifications, or to upgrade skills to meet the changing needs of industry. We have developed innovative and exciting workshops, seminars, conferences and institutes, and non-credit certificates to meet the needs of a wide variety of professions including teachers, appraisers, managers and office support staff…all designed to fit your schedule and budget.

Customized Training
We can customize credit and non-credit training programs to meet your specific needs, at our facility, at your facility, or at the location of your choice. Training is available in a wide variety of subjects including (but not limited to):

- Leadership
- Train-the-Trainer
- English to Speakers of Other Languages (ESOL)
- Diversity Training / Cultural Competence
- Customer Service
- Effective Communication Skills / Team Building
- Early Childhood Education
- Welding
- Shop Math and Blueprint Reading
- Computer skills, introductory to advanced
- Specific industry skills

College On-Site
Whether you are looking to bring individual classes, certificate programs or full associate degrees to your company, our faculty and staff will work closely with you and your employees to create and deliver quality training and education that is convenient and cost effective. The CTBD offers credit courses and non-credit workshops, seminars and trainings, all customized to meet your company's unique needs.

For more information about our corporate training, call 668-6706, extension 369.

Project Running Start

The New Hampshire Project Running Start (RS) is a unique higher education initiative for high school students that enables them to enroll in selected college courses offered by NHCTC at a significant reduction in tuition. College courses are offered during the day at high schools throughout New Hampshire.

Project Running Start promotes a very special and important partnership with secondary schools. This partnership will play a significant role in promoting access to higher education and lowering the costs associated with obtaining a college education.

PROGRAM GOALS
- Reduce the cost of higher education.
- Encourage more young learners to seek a higher education.
- Accelerate the process of higher education.
- Enroll more young students in the NHCTC.
- Retain more residents in the New Hampshire public higher education system.

BENEFITS FOR STUDENTS
- Students receive college credit and appropriate high school credit.
- Students will graduate high school with a college transcript of earned credits.
- Students are recognized as NHCTC students with access to many college resources.

ASSESSMENT TESTING
Students have the opportunity to take Accuplacer assessment testing at the high school or college. This assessment is required of any student who wishes to enroll in a College Composition or math course.

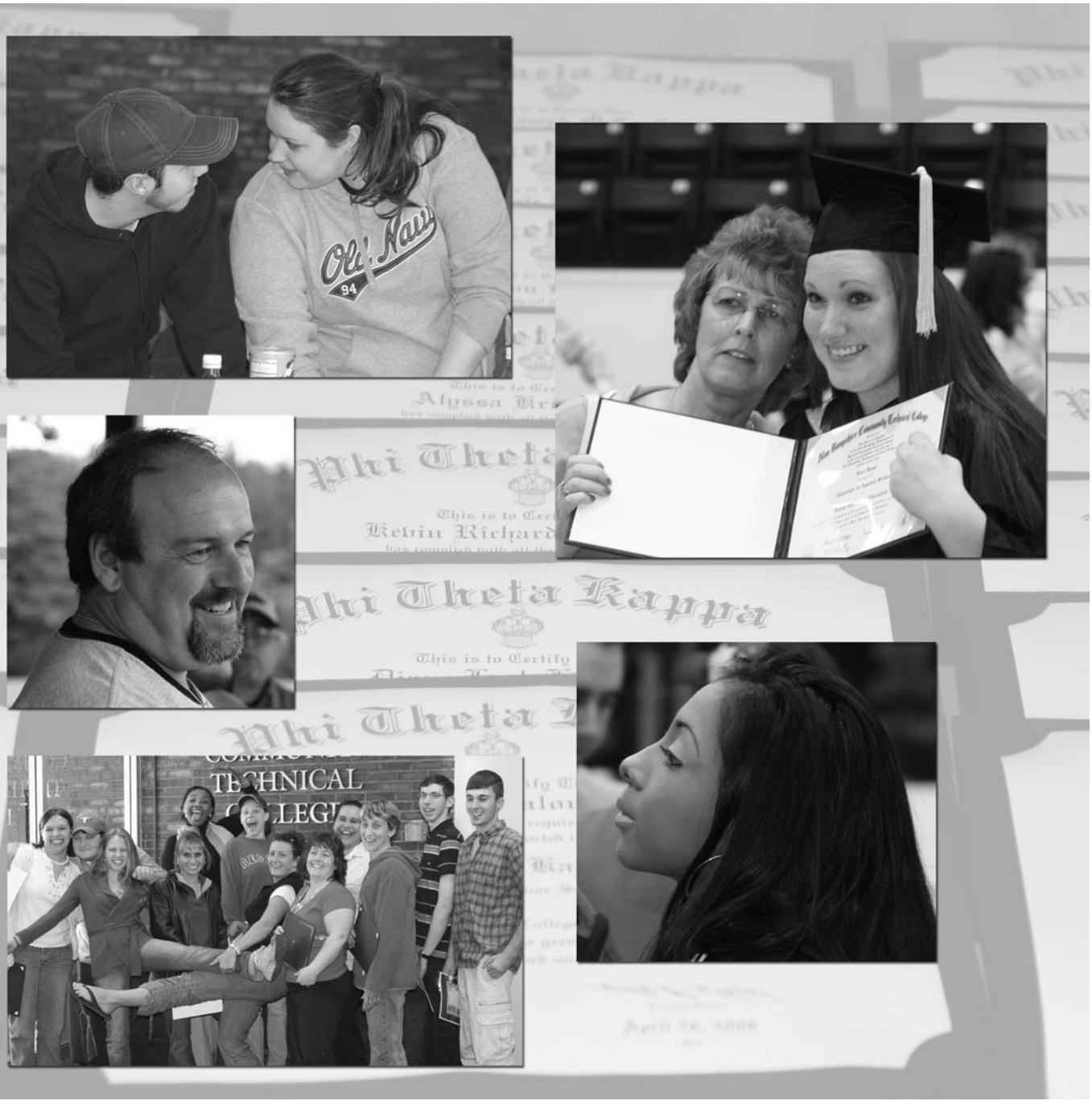
COST
The cost to enroll in a Project RS course is $100 per course, plus books and supplies (if not provided by the high school). This represents a substantial savings in college tuition costs.

FACULTY INFORMATION
All teaching faculty come from the ranks of the secondary schools and meet or exceed the hiring qualifications for NHCTC faculty. There is no adjunct salary compensation for Project RS faculty. The NHCTC supports professional development opportunities for RS faculty (e.g., faculty mentors, NHCTC Symposia and other college activities.) The NHCTC will also issue one course voucher for every RS college course taught. These vouchers cover the cost of tuition, (books and fees are excluded) and are intended for the use of RS faculty, who may elect to transfer their voucher.

TRANSFER OPPORTUNITIES
Project RS alumni have successfully transferred RS course credits to the following colleges and universities: American Univ., Assumption, Barnard, Bentley, Boston College, Bucknell Univ., Clark Univ., Clarkson Univ., Colby Sawyer, Emmanuel, Endicott, Fairfield Univ., Franklin Pierce, George Washington Univ., Hofstra Univ., Johnson & Wales, Keene State, NHCTC, Northeastern, Ohio, Wesleyan Univ., Penn State, Purdue Univ., Plymouth State, Providence, Quinnipiac Univ., Rivier, Rochester Institute of Technology, Sacred Heart, Southern NH Univ, St. Lawrence Univ., UNH, U of Connecticut, U of Rhode Island, Worcester PolyTech, and many others.
This list represents only a sample of transfer opportunities.

FOR MORE INFORMATION:
Contact the Office of Academic Affairs:
NHCTC-Manchester (603) 668-6706 ext. 223
Website: www.nhctc.edu/prs

Programs of Study



ACCOUNTING
ASSOCIATE IN SCIENCE

The Department of Business Studies at NHCTC offers an Accounting Associate Degree and an Accounting Certificate.

Accounting is an exciting field of study that offers challenging and meaningful work, a great variety of job opportunities, good working conditions and a rewarding salary. The future is bright for accountants, as there is a high projected growth and replacement rate in the number of jobs by the year 2010 according to the U.S. Department of Labor.

Thanks to the Sarbanes Oxley Act, there is an even greater need for accounting professionals than ever before! Opportunities exist in the fields of public accounting, private industry, government, non-profit, and international arenas. There are many different types of jobs that accountants can perform, such as forensic accounting, cost accounting, taxes, internal auditing, auditor, management accounting, consulting, general ledger accounting, analyst, financial planner, corporate controller, vice president of finance, etc. Further, accounting is a very secure field that usually encounters a low percentage of layoffs during times of economic downturns. In fact, the accounting staff are usually the last employees to be let go in the event of bankruptcy or liquidation.

Accounting is the language of business that ensures that the nation's firms are run more efficiently, its public records kept more accurately, taxes are paid on time, and that corporate financial fraud is not allowed to exist. Accounting personnel analyze, classify, record, summarize and report transactions in businesses. Accounting is the backbone of any organization. Therefore, higher level accountants hold top level executive positions within the organization and deal directly with all the other top executives and department heads on a daily basis. As all of the corporate financial mismanagement of the past few years unfolds, the role of the corporate accountant and auditor have become even more important than ever before.

The Accounting curriculum is continually modified and updated to keep pace with ever-changing rules, laws, and technology. The accounting program focuses on providing the student with the accounting skills to enter the job market as well focuses on the analytical skills needed to evaluate situations and look at the "big picture." The Accounting degree provides a foundation in accounting, economics, law, management, finance and computers. To complement the accounting degree the college offers two finance certificates. Accounting and finance are fields that are interlocked, so students can earn an associate degree in accounting and a certificate in finance to further increase their marketability.

Accounting graduates are prepared for employment in entry-level accounting/bookkeeping positions or can transfer to a four-year institution in pursuit of a bachelor's degree. The Accounting degree transfers in its entirety to many four-year colleges. Southern New Hampshire University accepts 90 credits from NHCTC business students and awards scholarships to NHCTC accounting graduates based on academic performance. Franklin Pierce college also accepts the accounting associates degree in full and offers a very nice scholarship package to our business graduates.

Since the Business Studies Department is nationally accredited by the Association of Collegiate Business Schools and Programs (ACBSP), our graduates can transfer to all regions of the country.

Accounting Transfer Credit Policy: In addition to NHCTC Manchester transfer credit policies, appropriate transfer credits for accounting courses may be accepted within a 10-year time frame.

DEGREE PROGRAM-FIRST YEAR

Fall Semester		TH	LAB	CR
ACCT113	Accounting and Financial Reporting I	3	0	3
BUS114	Management	3	0	3
CIS110	Introduction to Computers	2	2	3
ENGL110	College Composition I	4	0	4
INT101	College Success Seminar	1	0	1
MATH131	College Algebra I	3	0	3
	Total	16	2	17

Spring Semester				
ACCT123	Accounting and Financial Reporting II	3	0	3
ECON134	Macroeconomics	3	0	3
MATH202	Probability and Statistics	4	0	4
	English Elective	3	0	3
	Science Elective	3	0	3
	Total	16	0	16

SECOND YEAR

Fall Semester		TH	LAB	CR
ACCT213	Cost Accounting I	3	0	3
ACCT216	Software Systems Applications	2	2	3
ACCT223	Intermediate Accounting I	3	0	3
BUS211	Business Law	3	0	3
ECON135	Microeconomics	3	0	3
MKTG125	Principles of Marketing	3	0	3
	Total	17	2	18

Spring Semester				
ACCT215	Cost Accounting II	3	0	3
ACCT233	Intermediate Accounting II	3	0	3
ACCT243	Federal Income Taxes-Individual	3	0	3
BUS210	Organizational Communications	3	0	3
BUS221	Business Finance	3	0	3
	For. Lang./Humanities/Fine Arts Elective	3	0	3
	Total	18	0	18

TOTAL CREDITS - 69

ACCOUNTING CERTIFICATE

		TH	LAB	CR
ACCT113	Accounting and Financial Reporting I	3	0	3
ACCT123	Accounting and Financial Reporting II	3	0	3
ACCT213	Cost Accounting I	3	0	3
ACCT215	Cost Accounting II	3	0	3
ACCT216	Software Systems Applications	2	2	3
ACCT223	Intermediate Accounting I	3	0	3
ACCT233	Intermediate Accounting II	3	0	3
ACCT243	Federal Income Taxes-Individual	3	0	3
BUS221	Business Finance	3	0	3
CIS110	Introduction to Computers	2	2	3

TOTAL CREDITS - 30

Administrative Professional

Associate in applied Science

The Department of Business Studies at NHCTC-Manchester offers an Administrative Professional Associate Degree and two Administrative Professional Certificates.

The importance of the Administrative Professional has increased with the mounting complexity of the modern business world. At NHCTC, students will become proficient at all the skills, both technical and interpersonal, needed for a rewarding career in the world of business.

The Administrative Professional program not only offers the basics to those students who have never taken a business course, but also prepares them for advanced positions as they gain office management experience. The course offerings are highly computerized and stress familiarity with the latest in software packages found in most offices.

Courses in accounting, management, marketing and office practice will make graduates sought-after candidates in today's job market. Graduates of the Administrative Professional program are able to communicate effectively and learn to carry out office procedures with initiative and judgment. The optional internship provides students with a valuable office experience to start them on their way up the career ladder.

The Administrative Professional Associates Degree will transfer into a Bachelors Degree program in Business Studies with a concentration in Business Administration at Southern New Hampshire University.

The Business Studies Department is nationally accredited by the Association of Collegiate Business Schools and Programs (ACBSP). This accreditation provides transfer opportunities for our graduates in all regions of the country.

ADMINISTRATIVE PROFESSIONAL CERTIFICATE: The Administrative Professional Certificate is designed for the student who has little or no experience in the field. The certificate will introduce basic skills and competencies required for an entry level position in the administrative professional career. These certificate classes can then roll over into the degree program should the student decide to continue to pursue an Administrative Professional Associate Degree.

ADMINISTRATIVE MANAGEMENT CERTIFICATE: The Administrative Management Certificate is designed to provide students with previous administrative professional experience the opportunity to sharpen their skills and gain additional competencies required for advancement. The Administrative Management Certificate gives students an opportunity to take additional computer and business courses to help them advance in their careers, to accept additional responsibility and move up the career ladder in the administrative assistant career.

Administrative Professional Transfer Credit Policy: Appropriate transfer credits for courses within the major may be accepted within a 10- year time frame.

DEGREE PROGRAM-FIRST YEAR

Fall Semester		TH	LAB	CR
ADMN111	Keyboarding I	3	0	3
CIS110	Introduction to Computers	2	2	3
ENGL110	College Composition I	4	0	4
INT101	College Success Seminar	1	0	1
MATH132	Business Math	3	0	3
	Total	13	2	14
Spring Semester				
ADMN122	Executive Keyboarding	2	2	3
ADMN126	Administrative Transcription Theory	3	0	3
ACCT113	Accounting and Financial Reporting I	3	0	3
CIS221	Advanced Word Processing	2	2	3
CIS231	Advanced Worksheets	2	2	3
	Social Science Elective	3	0	3
	Total	15	6	18

Fall Semester		TH	LAB	CR

SECOND YEAR

ADMN200	Managing & Presenting Office Information	2	2	3
BUS114	Management	3	0	3
BUS224	Human Resource Management	3	0	3
	Science Elective	3	0	3
	English Elective	3	0	3
	For.Lang./Humanities/Fine Arts Elect	3	0	3
	Total	17	2	18
Spring Semester				
ADMN220	Speedwriting	4	0	4
ADMN222	Administrative Office Procedures	3	0	3
BUS210	Organizational Communications	3	0	3
CDI111	Electronic Publishing I	2	3	3
	Business Elective (ACCT, BUS, ENT, FINC, MKTG, ADMN223)	3	0	3
	Total	15	3	16

TOTAL CREDITS - 66

Administrative Professional Certificate

		TH	LAB	CR
ADMN111	Keyboarding I	3	0	3
ADMN122	Executive Keyboarding	2	2	3
ADMN126	Administrative Transcription Theory	3	0	3
ADMN200	Managing & Presenting Office Information	2	2	3
ACCT113	Accounting and Financial Reporting I	3	0	3
CIS110	Introduction to Computers	2	2	3
CIS221	Advanced Word Processing	2	2	3
CIS231	Advanced Worksheets	2	2	3
ENGL110	College Composition I	4	0	4

TOTAL CREDITS - 28

Administrative Management Certificate

		TH	LAB	CR
ADMN122	Executive Keyboarding	2	2	3
ADMN200	Managing & Presenting Office Information	2	2	3
BUS114	Management	3	0	3
BUS210	Organizational Communications	3	0	3
BUS224	Human Resource Management	3	0	3
CDI111	Electronic Publishing I	2	3	3
CIS110	Introduction to Computers	2	2	3
CIS221	Advanced Word Processing	2	2	3
CIS231	Advanced Worksheets	2	2	3

TOTAL CREDITS - 27

Automotive Technology
Associate in Applied Science

(ATEC) A Cooperative Program
Today a service technician must possess a high level of skills and knowledge to deal with sophisticated automotive systems. The Automotive Technology Cooperative Program (ATEC), with tracks offered for Chrysler, Ford and Management, provides the opportunity to learn the necessary skills. ATEC is a state-of-the-art, two-year NATEF-certified program combining classroom and practical training with paid on-the-job co-op experience, leading to an Associate Degree in Automotive Technology. ATEC is a collaborative effort between Daimler Chrysler, Ford Motor Company, local dealerships and NHCTC-Manchester. This collaborative effort gives students specialized training and the opportunity to work towards full-time employment.

The ATEC cooperative program offers students a unique learning experience. Students are required to complete 31 weeks of work experience at an approved co-op site. They will spend part of the semester working and learning in the classroom and labs at the college, and part of the semester working at an approved co-op site. The students will become familiar with the latest technology, earn an associate degree and work as a technician or management level apprentice.

Admissions Requirements for degree and certificate applicants

1. Complete an application to the program.
2. Provide an official copy of high school transcripts or GED.
3. Valid driver's license and driving experience with standard and automatic transmission automobiles.
4. Ability to read and interpret repair manuals, and to prepare required reports.
5. Adequate vision for distinguishing colors, interpreting gauges, scopes, and diagnostic equipment (adaptive equipment acceptable).
6. Adequate hearing to distinguish various sounds and noises (adaptive equipment acceptable).
7. Strength to lift automotive parts and equipment and for performance of manual skills.
8. Complete the Accuplacer assessment test.
9. College assessment results must indicate that placement into College Composition I (ENGL110) and Numerical Geometry (MATH 111) is applicable.
10. A personal interview with one of the automotive department faculty.

DEGREE PROGRAM-FIRST YEAR

		TH	LAB	CR
Fall Semester				
AUTO111	Introduction to Automotive Service	1	6	3
AUTO112	Steering Suspension & Alignment	2	3	3
AUTO113	Electrical Systems	3	3	4
ENGL110	College Composition I	4	0	4
MATH111	Numerical Geometry	3	0	3
INT101	College Success Seminar	1	0	1
	Co-op #1 (4 weeks)			
	Total	14	12	18
Spring Semester				
AUTO121	Brake Systems	2	3	3
AUTO122	Engine Theory, Diagnosis & Repair	2	3	3
AUTO123	Electronics I	2	3	3
CIS110	Introduction to Computers	2	2	3
MATH135	Numerical Algebra and Trigonometry	3	0	3
	Co-op #2 (8 weeks)			
	Total	11	11	15
Summer Session				
AUTO131	Climate Control Systems	2	3	3
AUTO132	Electronics II	2	3	3
AUTO133	Customer Satisfaction	1	0	1
	Co-op #3 (6 weeks)			
	Total	5	6	7

SECOND YEAR

		TH	LAB	CR
Fall Semester				
AUTO211	Manual Transmissions & Transaxles	2	3	3
AUTO214	Powertrain & Emission Controls	2	3	3
AUTO215	Advanced Vehicle Systems	3	0	3
PHYS100	Introductory Physics	2	3	3
	English Elective	3	0	3
	Co-op #4 (12 weeks)			
	Total	12	9	15
Spring Semester				
AUTO221	Automatic Trans Hyd. & Mech. Syst.	2	3	3
AUTO223	Driveability & Performance	2	3	3
AUTO224	Automatic Transmission Electronics	2	3	3
	Social Science Elective	3	0	3
	For. Lang./Humanities/Fine Arts Elective	3	0	3
	Total	12	9	15

TOTAL CREDITS - 70

Automotive Technology Certificate

Today an automotive service technician must possess a high level of skills and knowledge. In the Automotive Certificate program, students learn the skills necessary for an entry-level technician's position. The program combines classroom and practical training with on-the-job work experience. Students become familiar with the latest technology; earn a certificate and work as an apprentice technician. Students gain skills that directly apply to the field of study, prepare for ASE exams and work towards full-time employment. All certificate students must complete an internship course with a minimum of 244 hours of work experience at an approved co-op site.

		TH	LAB	CR
AUTO101	Introduction to Service & Maintenance	1	6	3
AUTO102	Suspension & Steering Systems	2	3	3
AUTO103	Basic Electrical	3	3	4
AUTO104	Automotive Brakes	2	3	3
AUTO105	Automotive Engines	2	3	3
AUTO106	Electronic Systems	2	3	3
AUTO107	Automotive Climate Control	2	3	3
AUTO108	Automotive Internship	0	15	5

TOTAL CREDITS - 27

NOTE-The courses required for the certificate program are NOT the same as those required for the degree. The degree courses have a cooperative work component within them and the certificate courses do not. Students wishing to complete the certificate program must complete an automotive internship instead.

Building Construction Technology

Associate in Applied Science

Building Construction is an ever-changing industry. To qualify as a wage earner in the modern day construction field, a person must possess a technical knowledge of construction design and the skills to apply that knowledge.

The Building Construction curriculum provides technical training in all phases of light residential construction. Architectural drafting, blueprint reading, estimating, codes and regulations, energy efficiency, site work and foundations, principles of framing and finish carpentry, and the proper choice and sizing of materials are part of the learning process.

Participation in the actual construction of a modular house gives the student practice in framing and in the installation of exterior and interior finish. Laboratory experiences in millwork projects and specialized methods of construction are also provided.

Opportunities for graduates include employment as carpenters, estimators, building material representatives, self employment, and related positions in the construction field.

In addition to the college-wide admission requirements, applicants to the Building Construction Technology program should have successfully completed courses in Algebra I and Geometry with grades of "C" or better.

Technical Standards
Applicants must have:

1. Adequate hearing for detection of changes in tone or sound of power equipment indicating malfunction or improper operational procedures. (Adaptive equipment acceptable.)
2. Physical strength necessary for maneuvering and/or lifting heavy objects.
3. Good manual dexterity.
4. Adequate vision for reading blueprints and other printed instruction, working with tools and equipment, and for maneuvering on job sites, scaffolding and areas in various stages of completion. (Adaptive equipment acceptable.)
5. Ability to visualize and portray ideas graphically.
6. Ability to exercise initiative and judgment while dealing with changing situations.

DEGREE PROGRAM-FIRST YEAR

Fall Semester		TH	LAB	CR
BLDG111	Architectural Drafting I	1	3	2
BLDG112	Methods of Construction I Theory	4	0	4
BLDG113	Methods of Construction I Lab	0	6	2
ENGL110	College Composition I	4	0	4
MATH111	Numerical Geometry	3	0	3
INT101	College Success Seminar	1	0	1
	Total	13	9	16
Spring Semester				
BLDG121	Architectural Drafting II	1	3	2
BLDG122	Methods of Construction II Theory	4	0	4
BLDG123	Methods of Construction II Lab	0	6	2
CIS110	Introduction to Computers	2	2	3
MATH135	Numerical Algebra and Trigonometry	3	0	3
	Social Science Elective	3	0	3
	Total	13	11	17

SECOND YEAR

Fall Semester		TH	LAB	CR
BLDG212	Methods of Construction III Theory	3	0	3
BLDG213	Methods of Construction III Lab	0	6	2
BLDG214	Energy Efficient Building Construction	3	0	3
BLDG230	Architectural CAD I	2	2	3
BLDG240	Introduction to Timberline Software	1	2	2
PHYS100	Introductory Physics	2	3	3
	English Elective	3	0	3
	Total	14	13	19
Spring Semester				
BLDG222	Methods of Construction IV Theory	3	0	3
BLDG223	Methods of Construction V Theory	3	0	3
BLDG224	Methods of Construction V Lab	0	6	2
BLDG225	Blueprint Reading/Estimating	3	3	4
BLDG235	Architectural CAD II	2	2	3
	For. Lang./Humanities/Fine Arts Elective	3	0	3
	Total	14	11	18

TOTAL CREDITS - 70

Architectural Drafting Technology Certificate

		TH	LAB	CR
BLDG111	Architectural Drafting I	1	3	2
BLDG121	Architectural Drafting II	1	3	2
BLDG230	Architectural CAD I	2	2	3
BLDG235	Architectural CAD II	2	2	3

TOTAL CREDITS - 10

Building Construction Certificate

		TH	LAB	CR
BLDG112	Methods of Construction I Theory	4	0	4
BLDG113	Methods of Construction I Lab	0	6	2
BLDG122	Methods of Construction II Theory	4	0	4
BLDG123	Methods of Construction II Lab	0	6	2
BLDG225	Blueprint Reading/Estimating	3	3	4
MATH111	Numerical Geometry	3	0	3

TOTAL CREDITS - 19

Building Maintenance Certificate

		TH	LAB	CR
BLM102	Building Maintenance Management	3	0	3
BLM103	Commercial Oil & Gas Burners I	3	0	3
BLM104	Plumbing	3	0	3
BLM105	Electrical Wiring/Basic Theory	3	0	3
BLM111	Electrical Wiring/Basic Lab	0	3	1
ELECTIVES: Choose one:				
BLM101	Grounds Maintenance	3	0	3
BLM106	Masonry/Bricklaying	1	2	2
BLM110	Energy Management Techniques	3	0	3

Additional elective options will be considered on an individual student basis. Contact your academic advisor for more information.

TOTAL CREDITS - 15/16

Computer Technologies
Associate in Science

The Department of Computer Technologies offers an Associate Degree program for full-time or part-time students.

The 65-credit degree consists of 26 credits of General Education Core courses, 15 credits of a Technical Core of courses, and a minimum of 24 credits of computer electives. After students complete the core technical courses, it is recommended that students focus on a specific area of technology by taking classes in one of the certificate disciplines offered in the Computer Technologies program. This will allow the students to gain a breadth and depth of knowledge in a given specialty and ensure that they develop a marketable set of skills to offer employers in industry. Students should follow a program of study as outlined in one of the many technology certificates.

If students are seeking to transfer to a four-year program, it is recommended that they consider fulfilling a Liberal Arts Elective requirement with a higher-level MATH course. MATH170 Discrete Mathematics, MATH171 Pre-Calculus and MATH200 Finite Mathematics are suggested as possible options. Students should see their advisor for specific recommendations based on possible future transfer plans.

GENERAL EDUCATION CORE COURSES:		**26 CREDITS**
ENGL110	College Composition I	4 credits
INT101	College Success Seminar	1 credit
MATH141	Technical Mathematics	3 credits
SOC120	Society & Technological Change	3 credits
	English Elective	3 credits
	Science Elective	3 credits
	For. Lang./Humanities/Fine Arts Elective	3 credits
	Liberal Arts Elective	3 credits
	Liberal Arts Elective	3 credits

COMPUTER TECHNICAL CORE COURSES:		**15 CREDITS**
CIS111	Computer Technologies	3 credits
CIS112	Programming Logic	3 credits
CIS113	Database Design & Management	3 credits
CIS116	Intro to Networking	3 credits
	Technical Elective: (BUS, CT)	3 credits

COMPUTER ELECTIVES: **MINIMUM 24 CREDITS**

The 8 elective computer courses may be taken from the Computer Technologies Department (CIS). Of these courses, at least 3 courses (9 credits) must be at the 200 level.

RECOMMENDED DEGREE PROGRAM SCHEDULE

FIRST YEAR

Fall Semester		TH	LAB	CR
CIS111	Computer Technologies	2	2	3
CIS112	Programming Logic	3	0	3
ENGL110	College Composition I	4	0	4
INT101	College Success Seminar	1	0	1
MATH141	Technical Mathematics	3	0	3
	Total	13	2	14
Spring Semester				
CIS113	Database Design & Management	2	2	3
CIS116	Intro to Networking	2	2	3
	Technical Elective (any level)	2	2	3
SOC120	Society & Technological Change	3	0	3
	English Elective	3	0	3
	Liberal Arts Elective	3	0	3
	Total	15	6	18

SECOND YEAR

Fall Semester	TH	LAB	CR
CIS Technical Elective (any level)	2	2	3
CIS Technical Elective (any level)	2	2	3
CIS Technical Elective (any level)	2	2	3
CIS Technical Elective (any level)	2	2	3
Liberal Arts Elective	3	0	3
Science Elective	3	0	3
Total	14	8	18
Spring Semester			
CIS Technical Elective (200 level)	2	2	3
CIS Technical Elective (200 level)	2	2	3
CIS Technical Elective (200 level)	2	2	3
Technical Elective(any level)	2	2	3
For. Lan./Humanities/Fine Arts Elective	3	0	3
Total	11	8	15

TOTAL CREDITS - 65

Networking Certificate

The Networking Certificate offers students the ability to obtain a broad base of knowledge in the operation and networking capabilities of two of the most popular operating systems: Microsoft Windows and Linux.

Students who complete the certificate may gain employment as technical support specialists, system administrators, junior network engineers, or network support technicians. The certificate will prepare students who wish to obtain vendor-specific certifications such as Microsoft Certified Desktop Support Technician (MCDST), Microsoft Certified Systems Administrator (MCSA), Linux SAIR Level 1, or Red Hat Certified Engineer.

Students seeking admission to the certificate must have previous work or course-related experience in computer and internet technologies. If students do not have current experience or degrees, appropriate background courses will be required.

Core Requirements - 21 credits

CIS116	Intro to Networking
CIS146	Linux I
CIS207	Windows - Professional
CIS216	Web Server Administration
CIS217	Windows - Server
CIS246	Linux II
CIS276	TCP/IP: Intro to Inter/Intra Networks

Linux Certificate

Linux systems are powerful operating systems offering increased stability, higher levels of security and lower cost than commercial operating systems. The Linux system is particularly attractive to small and mid-sized businesses. Interest in Linux is high and growing rapidly.

Linux was created using the Open Source model which means that everyone has access to the source code used for the program, can view it, see how it operates, and modify it if they wish. This is in contrast to the proprietary, closed source model used by commercial software developers. There are a variety of applications available for Linux today and many of these open source applications have been ported to run on a Windows environment as well. These include Star Office, Open Office, Evolution, Mozilla, Gimp, MySQL and PostresSql. Many of these programs are gaining a large foothold in the business community and the demand for skill and knowledge in this area is high.

The Linux certificate provides students with fundamental skills and knowledge needed to work in a Linux/Open Source environment. Students enrolled in this certificate program must have a solid background in computer use and significant experience with at least the Windows or Mac (OSX) operating system.

CORE REQUIREMENTS - 24 CREDITS		TH	LAB	CR
CIS113	Database Design and Management	2	2	3
CIS146	Linux I	2	2	3
CIS149	Linux Applications	2	2	3
CIS216	Web Server Administration	2	2	3
CIS246	Linux II	2	2	3
CIS249	Linux Databases	2	2	3
CIS254	Scripting Languages for the Web	2	2	3

TOTAL CREDITS - 21

Programming Certificate

The Programming Certificate is designed for students who want to develop the technical expertise for a career in backend or middle-tier programming or web application development programming.

The core portion of the certificate provides students with a solid foundation in programming logic and database design. Students can select to focus on Java, C++ or Visual Basic as their development language and then expand on their expertise by following one of the recommended programming paths of study.

Successful completion of this program will allow students to seek employment in entry-level programming, quality assurance, technical support, or technical sales and integration.

In addition to college-wide admission requirements, applicants for the Programming Certificate must have the following:

- Previous work or course-related experience in programming. If students do not have current experience or degrees, then CIS112 will be required to satisfy prerequisite requirements.
- Previous work or course-related experience in keyboarding, computer fundamentals, Microsoft Office and internet technology. If students do not have current experience or degrees, CIS110 will satisfy these eligibility requirements.
- Accuplacer scores indicating placement into college level reading, ENGL110 and MATH131. Students who do not place into these courses can be accepted into the program and can begin taking 100 level certificate courses, but will be required to complete college preparatory courses in reading, writing and mathematics within the first year of their acceptance.
- Students who have not taken at least 12 credits of college-level courses and earned a minimum GPA of 2.7 will also be required to take INT101 College Success Management within their first semester.

Programming Certificate (continued)

CORE COURSES - 15 CREDITS		TH	LAB	CR
CIS113	Database Design & Management	2	2	3
CIS124	Web Programming I	2	2	3
CIS224	Web Programming II	2	2	3
and				
CIS118	Introduction to Visual Basic	2	2	3
CIS218	Advanced Visual Basic	2	2	3
or				
CIS148	Introduction to Java Programming	2	2	3
CIS248	Advanced Java Programming	2	2	3
or				
CIS158	Introduction to C++	2	2	3
CIS258	Advanced C++	2	2	3

ELECTIVE COURSES - 9 CREDITS (choose at least 3)
Students must take at least one introductory and advanced class in the language of their choice. Once they complete the advanced course they may select another programming language to learn. All of the programming classes listed as part of the core can also count towards an elective.

		TH	LAB	CR
CIS134	Web Style and Design	2	2	3
CIS146	Linux I	2	2	3
CIS208	Data Structures in C++	2	2	3
CIS216	Web Server Administration	2	2	3
CIS223	Advanced SQL	2	2	3
CIS233	Oracle I	2	2	3
CIS243	Oracle II	2	2	3
CIS238	Object-Oriented Design	2	2	3
CIS249	Linux Databases	2	2	3
CIS254	Scripting Languages for the Web	2	2	3
CIS274	XML	2	2	3

TOTAL CREDITS - 24

Programming Certificate
Recommended Programming Paths of Study

The department has outlined several different paths of study. These elective paths were designed to give you the opportunity to hone your skills in-depth in a particular aspect of computer programming. Note that these paths are merely recommendations to guide you when you are choosing electives to complete the Programming Certificate. **These paths are NOT individual certificates.** Some of these paths include more than the credits necessary for the Programming Certificate.

Web Application Development

CIS134	Web Style and Design
CIS146	Linux I
CIS216	Web Server Administration
CIS223	Advanced SQL
CIS254	Scripting Languages for the Web
CIS274	XML

Java Programming

CIS146	Linux I
CIS148	Introduction to Java Programming
CIS223	Advanced SQL
CIS233	Oracle I
CIS238	Object Oriented Design
CIS248	Advanced Java Programming
CIS249	Linux Databases
CIS274	XML

C++ Programming

CIS158	Introduction to C++
CIS208	Data Structures in C++
CIS223	Advanced SQL
CIS238	Object Oriented Design
CIS258	Advanced C++

Early Childhood Education

Associate in Applied Science

The Early Childhood Education (ECE) program provides students with the knowledge and skills necessary to create a positive learning environment for young children, one that is nurturing and fosters creativity. Teachers who work with young children in high quality programs understand how young children grow and learn, and how to provide materials and activities that are developmentally and interest-appropriate.

The Early Childhood Education program is designed to prepare individuals as competent professionals. Graduates meet the New Hampshire Child Care Licensing requirements for a lead teacher and center director (with some job-related experience). The campus offers flexibility in scheduling and course and career options. The 12-credit Certificate is designed for students interested in meeting the minimum licensure requirements to be a child care teacher as well as qualifying them to be a family home child care provider. The 24 credit Special Education Option provides training for students interested in becoming a paraprofessional working with infants, toddlers and young children with unique learning challenges.

The Associate of Applied Science (AAS) degree program provides a combination of theory and practical experience to prepare the graduate for immediate entry into the field of Early Childhood Education. Graduates have at least 300 hours of supervised experience with children of two different age levels (infant/toddler, preschool, primary grade), adhering to the standards established by the National Association for the Education of Young Children.

Applicants are advised that the New Hampshire Bureau of Child Care Licensing requires candidates to be free of criminal convictions that will prevent them from employment in Early Childhood Education. In addition, applicants must have a current health form supplied by the New Hampshire Bureau of Child Care Licensing to participate in practicum experiences.

Early Childhood Education Technical Standards
Our college must ensure that students and children are not placed in jeopardy during their learning experiences. Students enrolled in the certificate or degree programs must demonstrate sufficient emotional stability to withstand the stresses of ever changing circumstances and ability to respond quickly and appropriately when events require. Furthermore, students are expected to have the maturity to accept direction and guidance, exercise sound judgment, maintain confidentiality and maintain sensitive interpersonal relationships with teachers, fellow students, children and their families. **Students are strongly recommended to meet with their academic advisor before enrolling in the program.**

Health Considerations
Students considering careers in early childhood education should explore the health requirements set forth by the State of NH licensing bureau and be prepared to submit a Child Care Health Form before beginning practicum. Prospective students with special needs requiring accommodations that may affect their practicum placement or employment options are advised to discuss specific career objectives with the program coordinator during the admissions process.

Character Expectations
Ensuring the health and safety of young children is a priority. To comply with the child care licensing rules, applicants seeking positions in programs serving young children are required to have a **criminal background check** done by the State of New Hampshire. Applicants who are unsure of their status in this area should discuss the matter with the program coordinator, as it may impact their ability to participate in practicum and determine employability in the early childhood field.

Technical Standards
Technical Standards have been established to provide insight for students into the skills and abilities required to function successfully in the ECE program and eventually the profession. Applicants who do not feel they can meet these should contact the ECE program coordinator before applying to the program. **All students desiring to complete practicum courses are required to submit the Health Form provided by the NH Bureau of Childcare Licensing Rules. The health form must indicate the student is mentally and physically fit to work with young children.**

Students enrolling in the ECE program must have sufficient strength, stamina and motor coordination to perform the following:

1. Stand for sustained periods of time, walking, running, bending, sitting on the floor and on child-size furniture to meet the child's needs and accomplish tasks.
2. Frequent lifting, moving and transferring children, especially infants and toddlers.
3. Sufficient visual and hearing acuity to ensure a safe environment and the ability to respond quickly in an emergency.
4. Sufficient verbal ability to express and exchange information and ideas as well as to interpret important instructions to children, co-workers and parents.
5. Ability to work with frequent interruptions, to respond appropriately in unexpected situations, and to cope with extreme variations in workload and stress levels.

Early Childhood Education Transfer Credit Policy: In addition to NHCTC-Manchester transfer credit policies, transfer of courses in early childhood education more than 10 years old will be evaluated by the Department Chair on an individual basis.

DEGREE PROGRAM
GENERAL EDUCATION REQUIREMENTS
26 CREDITS

		TH	LAB	CR
ENGL110	College Composition I	4	0	4
CIS110	Introduction to Computers	2	2	3
MATH131	College Algebra I	3	0	3
INT101	College Success Seminar	1	0	1
PSYC110	Introduction to Psychology	3	0	3
PHIL240	Ethics	3	0	3
	English Elective	3	0	3
	Science Elective	3	0	3
	For. Lang./Humanities/Fine Arts Elective	3	0	3

EARLY CHILDHOOD EDUCATION CORE REQUIREMENTS
30 CREDITS

		TH	LAB	CR
ECE100	Early Childhood Growth and Development	3	0	3
ECE102	Practicum I: Observation and Recording	1	3	2
ECE104	Foundations of Early Childhood Education	3	0	3
ECE105	Art, Music, Drama, Movement in Early Childhood Education	3	0	3
ECE110	Children's Literature and Language Arts	3	0	3
ECE112	Practicum II: Learning Environments	2	3	3
ECE116	Child Health, Safety and Nutrition	3	0	3
ECE200	Math and Science in Early Childhood Education	3	0	3
ECE201	Children's Individual and Special Needs	3	0	3
ECE202	Practicum III: Student Teaching	1	9	4
ECE210	Child, Family and Community Relations	3	0	3
ECE212	Practicum IV: Professional Development	1	9	4
ECE214	Appropriate Guidance and Discipline for Young Children	3	0	3

EARLY CHILDHOOD EDUCATION ELECTIVE COURSES
(MINIMUM 3 CREDITS - Choose one course)

ECE204	Developmentally Appropriate Curriculum for Infants and Toddlers	3	0	3
ECE205	Developmentally Appropriate Programs for School Age Children	3	0	3

TOTAL CREDITS - 69

Early Childhood Professional Certificate

Core Courses must be taken first.

Core Courses		TH	LAB	CR
ECE 100	Child Growth and Development	3	0	3
ECE 104	Foundations of ECE	3	0	3
ECE 112	Practicum II: Learning Environments	3	0	3
ECE 116	Child Health, Safety & Nutrition	3	0	3

Electives (choose 4 of the following)

ECE 110	Children's Literature and Language Arts	3	0	3
ECE 114	Children's Individual & Special Needs	3	0	3
ECE 200	Math & Science Development in ECE	3	0	3
ECE 204	Dev. Approp. Curriculum Infants/Toddlers	3	0	3
OR				
ECE 205	Dev. Approp. Prog. for School-Age Children	3	0	3
ECE 210	Child, Family and Community Relations	3	0	3
ECE 214	Approp. Guide/Discipline for Young Children	3	0	3
ECE 216	Art, Music, Drama and Dance in ECE	3	0	3
ECE 250*	Childcare Administration and Management	3	0	3

TOTAL CREDITS - 24

*Required for Center Director Credential in the State of New Hampshire. This course is not transferable to the Associate Degree Program in Early Childhood Education.

Early Childhood Education Certificate

		TH	LAB	CR
ECE100	Early Childhood Growth and Development	3	0	3
ECE104	Foundations of Early Childhood Education	3	0	3
ECE112	Practicum II: Learning Environments	2	2	3
ECE116	Child Health, Safety and Nutrition	3	0	3

TOTAL CREDITS - 12

Family Child Care Provider 100% Online Certificate Program

The Early Childhood Education Program offers a 12-credit on-line certificate program for Family Child Care Providers designed to meet the training requirements specified by the New Hampshire Childcare Regulations. All four courses are offered in a 100% on-line format to accommodate the unique scheduling needs of in-home child care providers. Three of the four courses can be applied directly to the Professional Certificate or Associate Degree program requirements if the student decides to pursue further education in the Early Childhood Program. Students must have reliable Internet access and basic computer skills in order to be successful in these courses.

Required Courses:

*ECE100	Child Growth and Development	3 credits
*ECE116	Child Health Safety and Nutrition	3 credits
*ECE106	Curriculum & Environment for Family Child Care (new course)	3 credits
ECE107	Family Child Care Business Management (new course)	3 credits

TOTAL CREDITS - 12

** The first three courses will transfer directly into the existing ECE Diploma or Associate Degree Programs.*

ECE Special Education Option

Teachers and paraprofessionals are increasingly working in inclusive settings and are responsible for meeting students' Individualized Educational Plans. They are members of the IEP or IFSP teams and need adequate training to effectively work with children with unique learning characteristics. A certificate option in Early Childhood Special Education is available to individuals interested in working as a paraprofessional in Early Intervention or Early Childhood Special Education and Inclusionary classrooms.

Birth-Grade 3 Option

ECE100	Child Growth and Development	3 credits
ECE104	Foundations of Early Childhood Education	3 credits
PSYC110	Introduction to Psychology	3 credits
ECE112	Practicum II: Learning Environments	3 credits
ECE114	Children's Individual and Special Needs	3 credits
EDU215	Behavioral Challenges in the Classroom	3 credits
EDU220	Families & Professionals in Special Education	3 credits
EDU225	Curriculum Planning & Implementation for Children with Unique Learning Characteristics	3 credits

TOTAL CREDITS - 24

Electrical Apprentice

These courses qualify for the 576 classroom hours required by the State of New Hampshire before taking the licensing exam.
For information on licensing and apprenticeship requirements, call the State of New Hampshire Electrician Board at 603-271-3748.

Year 1

- EA111 Mathematical Theory for Electrical Applications
- EA112 AC/DC Theory I
- EA113 AC/DC Theory II

Year 2

- EA122 Circuits and Residential Wiring
- EA123 Commercial and Industrial Wiring
- EA120 Motor, Generator, and Transformer Theory

Year 3

- EA230 Motor, Generator and Transformer Applications
- EA232 Electric Motor and Transformer Controls
- EA233 Electrical Control Systems

Year 4

- EA241 National Electrical Code I
- EA242 National Electrical Code II
- EA243 National Electrical Code III

Licensed Electrician 15 Hour Update
The 15 hour 2005 National Electrical Code update for licensed electricians is offered at the Manchester campus. This training will satisfy the continuing education requirements for electricians licensed in Maine, New Hampshire and Vermont.

Call Corporate and Community Education at 603-668-6706 for schedule information.

Entrepreneurial Certificate

This program is designed for those who have an idea and/or are interested in starting their own business. The subjects presented in the Certificate will give the entrepreneur the necessary knowledge, skills and resources to transform an idea into a marketable product/service. The program consists of six one and a half (1.5) credit hour courses and one three (3) credit hour course, focused on entrepreneurship and other areas related to new venture start-up.

Each course in the program is delivered by a business professional, and is augmented by on-line resources, such as the New Hampshire Virtual Business Incubator, (www.nhvbi.org), and the Small Business Administration. Upon completion of the certificate, the student will have a marketable business plan.

The Certificate is open to all students and individuals who have a passion for being their own bosses and/or have an idea they want to become reality. This certificate program provides the entrepreneur with the major components necessary for the creation, growth and sustainability of his/her enterprise. The entrepreneur will receive a mentored environment and the necessary skills to effectively plan and start a business.

The Business Studies Department is nationally accredited by the Association of Collegiate Business Schools and Programs (ACBSP). This accreditation provides transfer opportunities for our graduates in all regions of the country.

ENTREPRENEURIAL CERTIFICATE

ENT100	Intro to Entrepreneurship & Emerging Ventures	1.5 credits
ENT101	New Product Development	1.5 credits
ENT102	Entrepreneurial Marketing	1.5 credits
ENT103	Legal Environment of Entrepreneurship	1.5 credits
ENT104	Financing New Ventures	1.5 credits
ENT105	Entrepreneurial Management	1.5 credits
ENT110	Building a Business Plan	3.0 credits

TOTAL CREDITS - 12

Exercise Science

Associate in Science

Exercise Science is a cross-disciplinary subject area involving the scientific study of the physical action of the body and human performance. The study of the acute and chronic changes within the body resulting from the exercise stimulus is integral to the discipline. The emphasis of the Exercise Science program is upon fundamental knowledge, skill, and ability development in the areas of risk stratification, fitness assessment, cardiovascular and resistive programming and exercise leadership. The major will support further study within the discipline or within cross-specialization such as nutrition and sports medicine.

Endorsed by The American College of Sports Medicine, this curriculum covers the knowledge, skills and abilities expected of an ACSM Health Fitness Instructor.® Students will prepare to successfully complete the ACSM Health Fitness Instructor Certification as well as Personal Training Certifications from the National Strength & Conditioning Association (NSCA) and American Council on Exercise (ACE). Graduates may seek employment in corporate fitness, cardiac rehabilitation, private sector health/fitness facilities, sports medicine programs, private fitness training/consulting, and related health agencies.

In addition to College-wide admission requirements, students in the Exercise Science Degree program must complete and submit the following:

1. Satisfactory completion of high school biology. Prerequisite courses may be taken at NHCTC prior to the first academic semester.

Technical Standards

1. Submit a report of a current physical examination.
2. Possess health insurance.
3. Possess professional liability insurance for Internship (available at the college).
4. Possess American Heart Association Heartsaver CPR/AED or American Red Cross equivalent prior to beginning internship.
5. Travel Policy: Transportation to and from the internship site is the responsibility of the student.

DEGREE PROGRAM-FIRST YEAR

Fall Semester		TH	LAB	CR
EXER111	Introduction to Exercise Science Industry	1	3	2
BIOL110	Human Anatomy and Physiology I	3	3	4
BIOL150	Nutrition	3	0	3
CIS110	Introduction to Computers	2	2	3
ENGL110	College Composition I	4	0	4
INT101	College Success Seminar	1	0	1
	Total	14	8	17
Spring Semester				
EXER113	Physiology of Exercise	3	2	4
EXER213	Resistance Training Essentials	2	3	3
BIOL120	Human Anatomy and Physiology II	3	3	4
MATH131	College Algebra	3	0	3
	Social Science Elective	3	0	3
	Total	14	8	17

SECOND YEAR

Fall Semester		TH	LAB	CR
EXER116	Health Fitness Assessment & Programming	2	4	4
EXER200	Advanced Physiology of Exercise	3	2	4
EXER230	Kinesiology	3	2	4
	Business or Math or Science Elective	3	0	3
	English Elective	3	0	3
	Total	14	8	18
Spring Semester				
EXER110	Group Exercise Leadership	1	3	2
EXER212	Physical Activity and Aging	3	0	3
EXER221	Exercise Science Internship	0	9	3
EXER240	Injury Prevention & Post - Rehabilitative Exercise	3	2	4
	For. Lang./Humanities/Fine Arts Elective	3	0	3
	Total	10	14	15

TOTAL CREDITS - 67

Personal Training Certificate

		TH	LAB	CR
EXER113	Physiology of Exercise	3	2	4
EXER116	Health Fitness Assessment & Programming	2	4	4
EXER213	Resistance Training Essentials	2	3	3
	Exercise Science Elective (choose one) (EXER114, EXER212, EXER230)	3	0	3
BIOL110	Human Anatomy and Physiology I	3	3	4
BIOL120	Human Anatomy and Physiology II	3	3	4
BIOL150	Nutrition	3	0	3

TOTAL CREDITS - 25

Finance Certificates

The world of finance is an exciting and growing area. The areas of accounting and finance provide a very stable job market filled with challenging and rewarding work. The need for financial analysts and personal financial advisors is expected to grow 21% to 35% through year 2010 which is faster than the average growth rate according to the U.S. Department of Labor. Financial analysts and personal finance advisors provide investment analysis and guidance to businesses and individuals in order to help them with investment decisions.

Financial managers oversee the preparation of financial reports, direct investment activities, and the implementation of cash management strategies and long-term goals. Financial managers, financial analysts and personal financial advisors work directly with top managers of the company and have above average salaries.

The finance certificates focus on providing the student with the finance and accounting skills needed for a job in finance as well focusing on the analytical skills needed to evaluate the details of a situation while still taking into account the "big picture." Finance certificate graduates are prepared for employment in entry-level financial positions or can pursue transfer to a four-year institution. These certificates are ideal for a student that already has an accounting degree and wants to become more marketable. Accounting and finance are interrelated. Accounting tells how to prepare the statements and the data whereas Finance tells you how to interpret the data and what to do with it.

The Business Studies Department is one of the few in NH to be nationally accredited by the Association of Collegiate Business Schools and Programs (ACBSP). This accreditation provides transfer opportunities for our graduates in all regions of the country.

Finance Transfer Credit Policy: In addition to NHCTC Manchester transfer credit policies, appropriate transfer credits for Finance courses may be accepted within a 10-year time frame.

Personal Finance Certificate

		TH	LAB	CR
ACCT113	Accounting and Financial Reporting I	3	0	3
ACCT123	Accounting and Financial Reporting II	3	0	3
ACCT243	Federal Income Taxes-Individual	3	0	3
BUS221	Business Finance	3	0	3
FINC110	Money & Banking	3	0	3
FINC120	Personal Financial Management	3	0	3
FINC215	Introduction to Investment Analysis	3	0	3
FINC225	Retirement, Trusts, Wills & Estate Planning	3	0	3

TOTAL CREDITS - 24

Corporate Finance Certificate

		TH	LAB	CR
ACCT113	Accounting and Financial Reporting I	3	0	3
ACCT123	Accounting and Financial Reporting II	3	0	3
ACCT244	Federal Income Taxes- Corp./ Partnerships/Estates/Trusts	4	0	4
BUS221	Business Finance	3	0	3
FINC110	Money & Banking	3	0	3
FINC213	Problems in Managerial Finance and Financial Policy	3	0	3
FINC215	Introduction to Investment Analysis	3	0	3
FINC216	Budgeting and Forecasting	3	0	3
FINC217	International Corporate Finance	3	0	3

TOTAL CREDITS - 28

General Studies

The General Studies degree program is designed to offer a flexible curriculum tailored to the student's professional needs. It also provides students the opportunity of receiving credit for significant prior learning experiences in a technical or occupational specialty. Typically, the technical or occupational specialty a student chooses should be in an area other than a current degree program at the college. The General Studies degree is intended be a unique, individualized program of study.

Students accepted in this program should plan to register for GA101, Assessment of Prior Learning, as one of the first courses in which to enroll at the college. This one-credit course is designed to help clarify a student's career goals and how those goals will be achieved through the General Studies degree program. Additionally, students will prepare a detailed resume, a proposed curriculum checklist of courses, and appropriate proposals for consideration of credit for prior learning experiences. Final approval of the student's proposed program will be granted, and an academic advisor assigned, by the Office of Academic Affairs at the completion of the course. An interview with the Associate Vice President of Academic Affairs is required prior to acceptance into the program. More detailed information about the General Studies Degree and a General Studies Information Packet can be obtained by contacting the Admissions Office.

A minimum of 64 credits is required for graduation, distributed in the following manner:

Technical Specialty Courses	20 credits
Related Technical Support Courses	16 credits
Liberal Arts Courses	30 credits

TOTAL CREDITS 66

LIBERAL ARTS COURSE REQUIREMENTS - 30 CREDITS

ENGL110	College Composition I	4 credits
GA101	Assessment of Prior Learning	1 credit
INT101	College Success Seminar	1 credit
	English Elective	3 credits
	For. Lang./Humanities/Fine Arts Elective (AMER, ASL, ARTS, ENGL Literature, ENGL113, 210, 213, FREN, GERM, HIST120, 130, HUMA, PHIL, SPAN)	3 credits
	Math Elective	3 credits
	Science Elective (BIOL, CHEM, ESCI, PHYS)	3 credits
	Social Science Elective (AN, ECON, GEOG, HIST, POL, PSYC, SOC)	3 credits
	Liberal Arts Electives	6 credits
	Open Elective	3 credits

Students shall earn a minimum of 16 credit hours at this college and eight of these credits must be 200-level courses in a student's technical specialty as approved by the Office of Academic Affairs.

Graphic Design
Associate in Applied Science

The Graphic Design program prepares students for a career in printed design in the graphics arts industry. This industry is constantly changing, with technological advances that require designers to take on more pre-press responsibilities. Students will learn to create and execute comprehensive designs that promote public consumption of materials, products or services, and to influence the opinions of individuals or organizations through printed communications.

The program is designed to give students an understanding of color, design, typography, layout and advertising principles. They will develop manual as well as digital drawing, illustration and layout techniques to create solutions to marketing communication problems. The latest industry standard computer applications will be taught to give students hands-on skills in creating digital layouts, along with scanning and manipulating manually created images. Students will develop an understanding of the use of various media in printed communications and identify marketing trends and target markets.

During the internship course, students will practice the skills learned in the classroom/lab, acquire professional job attitudes, and explore career opportunities in graphic design. In some cases, the internship may lead to job placement for graduating students.

Completion of projects for the program will require additional time outside of scheduled classes and labs. Students will need to attend open lab sessions and work on projects independently. Students are strongly encouraged to purchase hardware and software for home use.

The Graphic Design Degree program prepares students for entry-level jobs in advertising agencies, printing companies, publishing firms, and companies that maintain an in-house commercial design department. Successful graduates must:

1. Have the ability to accurately measure with more than one measurement system
2. Be able to design, draw or illustrate, following specific instructions
3. Build a professional, well-presented portfolio ***** and self-promotion package
4. Participate in related industry events such as a business luncheon seminar and a juried exhibition
5. Participate in two portfolio reviews, one attended, one unattended
6. Complete internship seminar and lab with a passing grade

*** An annual award for recognition of best design portfolio is presented to a senior at graduation rehearsal.**

In addition to college-wide admission requirements, applicants for the Graphic Design Degree program should have the following:

1. Competence in high school level Algebra, English Composition and Reading (grade of "C" or better)
2. Strong grasp of spoken English so they have the ability to communicate well verbally
3. Ability to work in teams to find solutions for design problems
4. Ability to follow written instructions with minimal supervision
5. Ability to accept critique of designs and make changes based on constructive criticism
6. Ability to meet deadlines and work in a stressful environment
7. Good eye-hand coordination to perform labor intensive project construction
8. Capacity to stand or sit for extended periods of time (adaptive equipment is acceptable)
9. Good vision and manual dexterity to perform drawing operations (adaptive equipment is acceptable)

DEGREE PROGRAM-FIRST YEAR

Fall Semester		TH	LAB	CR
CDI111	Electronic Publishing I	2	3	3
CDI112	Print Design Basics	2	3	3
CDI114	Two Dimensional Design for Graphic Arts	2	3	3
ARTS123	Drawing I	2	3	3
ENGL110	College Composition I	4	0	4
INT101	College Success Seminar	1	0	1
	Total	13	12	17
Spring Semester				
CDI121	Electronic Publishing II	2	3	3
CDI122	Color Theory for Graphic Arts	2	3	3
CDI124	Typography	2	3	3
CDI222	Computer Illustration	2	3	3
	Social Science Elective	3	0	3
	Total	12	9	15

SECOND YEAR

Fall Semester		TH	LAB	CR
CDI211	Illustration	2	3	3
CDI213	Commercial Design I	2	3	3
CDI215	Digital Publishing Methods	2	3	3
CDI227	Internship Seminar	1	0	1
ENGL113	Oral Communications	3	0	3
MATH131	College Algebra I	3	0	3
MKTG210	Advertising	3	0	3
	Total	16	9	19
Spring Semester				
CDI225	Commercial Design II	2	3	3
CDI226	Portfolio Preparation	2	3	3
CDI228	Internship	0	8	2
MATH132	Business Math	3	0	3
	Science Elective	3	0	3
	Humanities Elective-Choose one: (HUMA114,HUMA117, HUMA127 HUMA130, HUMA200, ARTS110, ARTS115,ARTS210, ARTS223)	3	0	3
	Total	13	14	17

TOTAL CREDITS - 68

Graphic Design Certificate

Students with prior experience or education in design may qualify for the Graphic Design Certificate. Co/prerequisite requirements for courses listed in the certificate will be handled on a case-by-case basis. If students do not have current experience or degrees, CDI112 will be required before CDI215 can be taken.

This certificate allows students to update their computer skills and hone their design skills to grow personally and professionally. Successful graduates of the Graphic Design Certificate will be able to add to their professional portfolio and are expected to complete an internship. They will be prepared for continued growth in their career field and for jobs in advertising agencies, printing companies, publishing firms, and companies that maintain in-house commercial design departments.

		TH	LAB	CR
CDI111	Electronic Publishing I	2	3	3
CDI114	Two Dimensional Design for Graphic Arts	2	3	3
CDI121	Electronic Publishing II	2	3	3
CDI122	Color Theory for Graphic Arts	2	3	3
CDI124	Typography	2	3	3
CDI213	Commercial Design I	2	3	3
CDI215	Digital Publishing Methods	2	3	3
CDI222	Computer Illustration	2	3	3
CDI225	Commercial Design II	2	3	3
CDI227	Internship Seminar	1	0	1
CDI228	Internship	0	8	2

TOTAL CREDITS - 30

Graphic Illustration Certificate

Students with prior experience or an education in commercial art or illustration may qualify for the Graphic Illustration Certificate. Co/prerequisite requirements for courses listed in the certificate will be handled on a case-by-case basis. If students do not have current experience or degrees, CDI213 will be required before CDI225 can be attended.

This certificate allows students to add to their skills in mechanical and computer generated illustration, and provides them with entry level electronic layout skills so they can grow personally and professionally. Successful graduates of the Graphic Illustration Certificate will be able to add to their professional portfolio and will be prepared for continued growth in commercial illustration with job possibilities in permanent or freelance illustration for advertising agencies, publishing firms and companies that maintain in-house commercial design departments.

		TH	LAB	CR
CDI111	Electronic Publishing I	2	3	3
CDI114	Two Dimensional Design for Graphic Arts	2	3	3
CDI122	Color Theory for Graphic Arts	2	3	3
CDI211	Illustration I	2	3	3
CDI221	Illustration II	2	3	3
CDI222	Computer Illustration	2	3	3
CDI225	Commercial Design II	2	3	3
CDI226	Portfolio Preparation	2	3	3
ARTS123	Drawing I	2	3	3
ARTS210	Painting I	2	3	3
ARTS223	Drawing II	2	3	3

TOTAL CREDITS - 33

Fine Arts focus within Liberal Arts

Students wishing to focus in the fine arts are able to receive an Associate of Arts Degree in Liberal Arts, and can choose from the following 'ARTS' courses to fulfill an Associate of Arts Degree: Photography I, II, or Digital Photography, Drawing I, II and Painting I, II. Each student's program is developed in consultation with a faculty advisor.

Heating, Ventilation & Air Conditioning

Associate in Applied Science

Students in this program receive training for careers as technicians in the field of climate control. Heating, ventilation, air conditioning, and their applications are a matter of health and comfort for the home or business.

A broad background in mathematics and physics supports the theory and extensive laboratory work. The program includes basic theory, application, estimating, installation, maintenance and service of residential and commercial air conditioning, heating, and refrigeration equipment.

Graduates may expect a rewarding career with ample opportunity for employment and advancement in the areas of service, sales, supervision, management, and/or ownership.

This program is offered with a two-year track, three-year track, or four-year track. This allows the student to reduce the number of credits taken each semester to facilitate meeting the student's needs.

In addition to college-wide admission requirements, applicants to the Heating, Ventilation, and Air Conditioning Degree program should:

1. Have successfully completed courses in Algebra I, Algebra II and Science. Advanced levels of math and a physics course would be advantageous.
2. Exhibit mechanical aptitude and an interest in mechanical components.

Technical Standards

It is highly recommended applicants have:

1. The physical strength necessary to maneuver and/or lift heavy objects.
2. Good manual dexterity.
3. Adequate vision for reading printed instructions and blueprints and should not have color blindness (adaptive equipment acceptable).
4. Adequate hearing to distinguish various sounds and noises. (adaptive equipment acceptable.)
5. Ability to visualize and portray ideas graphically.

DEGREE PROGRAM-FIRST YEAR

Fall Semester		TH	LAB	CR
HVAC111	Fundamentals of Refrigeration I Theory	3	0	3
HVAC112	Fundamentals of Refrigeration I Lab	0	3	1
HVAC113	Related Electricity I	3	3	4
HVAC114	Fundamentals of Heating I Theory	3	0	3
HVAC115	Fundamentals of Heating I Lab	0	3	1
ENGL110	College Composition I	4	0	4
MATH111	Numerical Geometry	3	0	3
INT101	College Success Seminar	1	0	1
	Total	17	9	20
Spring Semester				
HVAC121	Fundamentals of Refrigeration II Theory	3	0	3
HVAC122	Fundamentals of Refrigeration II Lab	0	3	1
HVAC123	Related Electricity II	3	3	4
HVAC124	Fundamentals of Heating II Theory	3	0	3
HVAC125	Fundamentals of Heating II Lab	0	3	1
MATH135	Numerical Algebra and Trigonometry	3	0	3
	Social Science Elective	3	0	3
	Total	15	9	18

SECOND YEAR

Fall Semester		TH	LAB	CR
HVAC211	Commercial Refrigeration Theory	3	0	3
HVAC212	Commercial Refrigeration Lab	0	6	2
HVAC213	Hydronic and Steam Systems Theory	3	0	3
HVAC214	Hydronic and Steam Systems Lab	0	6	2
PHYS100	Introductory Physics	2	3	3
CIS110	Intro to Computers	2	2	3
	Total	10	17	16
Spring Semester				
HVAC221	Residential and Commercial Air Conditioning and Heat Pumps Theory	3	0	3
HVAC222	Residential and Commercial Air Conditioning and Heat Pumps Lab	0	6	2
HVAC223	Warm Air Systems Theory	3	0	3
HVAC224	Warm Air Systems Lab	0	6	2
	For. Lang./Humanities/Fine Arts Elective	3	0	3
	English Elective	3	0	3
	Total	12	12	16

TOTAL CREDITS - 70

Air Conditioning/Refrigeration Certificate

		TH	LAB	CR
HVAC111	Fundamentals of Refrigeration I Theory	3	0	3
HVAC112	Fundamentals of Refrigeration I Lab	0	3	1
HVAC113	Related Electricity	3	3	4
HVAC121	Fundamentals of Refrigeration II Theory	3	0	3
HVAC122	Fundamentals of Refrigeration II Lab	0	3	1
HVAC123	Related Electricity II	3	3	4
HVAC211	Commercial Refrigeration Theory	3	0	3
HVAC212	Commercial Refrigeration Lab	0	6	2
HVAC221	Residential and Commercial Air Conditioning and Heat Pumps Theory	3	0	3
HVAC222	Residential and Commercial Air Conditioning and Heat Pumps Lab	0	6	2

TOTAL CREDITS - 26

Heating Services Certificate

		TH	LAB	CR
HVAC113	Related Electricity I	3	3	4
HVAC114	Fundamentals of Heating I Theory	3	0	3
HVAC115	Fundamentals of Heating I Lab	0	3	1
HVAC123	Related Electricity II	3	3	4
HVAC124	Fundamentals of Heating II Theory	3	0	3
HVAC125	Fundamentals of Heating II Lab	0	3	1
HVAC213	Hydronic and Steam Systems Theory	3	0	3
HVAC214	Hydronic and Steam Systems Lab	0	6	2
HVAC223	Warm Air System Theory	3	0	3
HVAC224	Warm Air System Lab	0	6	2

TOTAL CREDITS - 26

Gas Appliance Installation & Service Certificate

		TH	LAB	CR
HVAC116	CETP Basic Principles & Practices of Gas Industry	3	3	4
HVAC126	CETP Gas Appliance Installation & Gas Appliance Service	3	3	4

TOTAL CREDITS - 8

Human Services
Associate in Applied Science

As America's sensitivity to the needs of all its citizens matures, the demand for professionally trained, direct support professionals continues to increase. The Human Services program was developed by NHCTC and area service providers to meet that demand.

The Associate in Applied Science Degree provides a combination of theory and hands-on experiences in both the classroom and in clinical settings. The degree includes a group of core courses taken by all students, including four Professional Seminars, which provide extensive fieldwork experience.

The program provides students with the skills and competencies necessary to offer appropriate support to people and to continue to grow personally and professionally. Graduates of the program have been employed in the areas of developmental disabilities, mental health, child and family services, substance abuse, homelessness, acquired brain injury, and others.

Once the certificate has been earned, students have the freedom to return at a later date and transfer all credits from the certificate as they continue their studies toward the Associate Degree.

In addition to college-wide admission requirements, students in the Human Services Degree program should submit a personal statement that addresses interest in human services and how this program will help meet career goals. The student must then set up an interview with the human services coordinator. The interview will serve to determine the appropriateness of entry into the Human Services program.

Students working in the Human Services field must be free from criminal convictions. Thus, students participating in Professional Seminars will need to present a Criminal Records Check to their internship site. Certain placement sites may also require that a Health Form be submitted. In addition, the program requires good communication skills that include the ability to read, write and orally communicate at the college level. Students who test below college level reading and writing abilities must complete any recommended developmental course work before participating in the Professional Seminars or other Human Services courses.

Students should be prepared to adhere to professional ethics that include, but are not limited to: maintaining confidentiality, recognition and maintenance of professional boundaries, adherence to the legal and site placement policies and procedures, and the ability to follow directions and supervision. The inability to demonstrate all of the above may cause a student to be refused admittance to the program or to be dismissed from the program. If students are concerned regarding their status, they should meet with their academic advisor.

DEGREE PROGRAM-FIRST YEAR

Fall Semester		TH	LAB	CR
HUMS111	Introduction to Human Services	3	0	3
HUMS116	Professional Seminar I	2	3	3
ENGL110	College Composition I	4	0	4
MATH131	College Algebra I	3	0	3
PSYC110	Introduction to Psychology	3	0	3
INT101	College Success Seminar	1	0	1
	Total	16	3	17
Spring Semester				
HUMS114	Assessment and Planning	3	0	3
HUMS117	Professional Seminar II	2	3	3
PSYC210	Human Growth and Development	3	0	3
SOC110	Sociology or SOC 109 Social Problems	3	0	3
	For. Lang./Humanities/Fine Arts Elective	3	0	3
	Technical Elective: (any HUMS course not otherwise required)	3	0	3
	Total	17	3	18

SECOND YEAR

Fall Semester				
HUMS218	Professional Seminar III	2	3	3
BIOL106	Human Body	3	0	3
PSYC112	Learning and Behavior	3	0	3
SOC250	Ethnic/Cultural Relations	3	0	3
	English Elective	3	0	3
	Total	14	3	15
Spring Semester				
HUMS212	Interpersonal Dynamics	3	0	3
HUMS219	Professional Seminar IV *or*			
PSYC218	Career Development	3	0	3
PSYC235	Health Psychology	3	0	3
PHIL240	Ethics	3	0	3
	Technical Elective: (any HUMS course not otherwise required)	3	0	3
	Total	15	0	15

TOTAL CREDITS - 65

Human Services Certificate

		TH	LAB	CR
HUMS111	Introduction to Human Services	3	0	3
HUMS114	Assessment and Planning	3	0	3
HUMS116	Professional Seminar I	2	3	3
HUMS117	Professional Seminar II	2	3	3
HUMS212	Interpersonal Dynamics	3	0	3
INT101	College Success Seminar	1	0	1
PHIL240	Ethics	3	0	3
PSYC110	Introduction to Psychology	3	0	3
PSYC112	Learning and Behavior	3	0	3
PSYC210	Human Growth and Development	3	0	3

TOTAL CREDITS - 28

Interior Design
Associate in Applied Science

Creativity and innovation come with a passion for design and the desire to improve living, working and social spaces. The Interior Design program allows the student to prepare and pursue, in depth, courses in drafting, professional practices, sketching, lighting, measuring and preparing cost estimates, as well as required courses in Liberal Arts. A portfolio preparation course as well as an internship in the Interior Design field completes the course of study in preparing the student for work or to continue in a baccalaureate degree program at one of the area's colleges or universities.

The curriculum will prepare the student in the educational requirements needed to sit for the NCIDQ examination (National Council for Interior Design) and was developed along the guidelines of FIDER (Foundation for Interior Design Research).

In addition to college-wide admission requirements, applicants for the Interior Design degree program should have the following:

1. Competency in high school level Algebra, English Composition and Reading (grade of "C" or better)
2. Strong grasp of spoken English so they have the ability to communicate well verbally
3. Ability to work independently as well as in teams to find solutions for design problems
4. Ability to visualize a "finished" designed space from concept to completion
5. Ability to accept critique of design and make changes based upon constructive criticism
6. Ability to meet deadlines

* Certificate in Interior Design
The Interior Design Certificate program prepares students to identify, research and creatively solve problems relating to the functions and aesthetics of living and working environments. Students are expected to complete an internship. The internship experience and certificate training will prepare the individual for work as an entry-level interior design assistant.

DEGREE PROGRAM-FIRST YEAR

Fall Semester		TH	LAB	CR
ID110	Interior Design I	2	3	3
BLDG100	Interior Drafting	1	2	2
HUMA118	Survey of European Architecture and Design	3	0	3
CIS110	Introduction to Computers	2	2	3
ENGL110	College Composition I	4	0	4
INT101	College Success Seminar	1	0	1
	Total	13	7	16

Spring Semester		TH	LAB	CR
ID112	Color in Interior Design	2	3	3
ID114	Drawing For Interior Design	2	3	3
ID210	Interior Design II	2	3	3
HUMA119	Survey of American Architecture and Design	3	0	3
MATH131	College Algebra	3	0	3
	Total	12	9	15

SECOND YEAR

Fall Semester		TH	LAB	CR
ID200	Materials and Components	3	0	3
ID212	Lighting Design	3	0	3
ID215	Textiles	3	0	3
ID220	Auto CAD For Interior Design	2	3	3
ENGL113	Oral Communications	3	0	3
	Social Science Elective	3	0	3
	Total	17	3	18

Spring Semester		TH	LAB	CR
ID223	Interior Design III	2	3	3
ID224	Professional Practice in Interior Design	3	0	3
ID225	Interior Design Internship	1	8	3
ID226	Portfolio Preparation for Interior Design	1	3	2
MATH132	Business Mathematics	3	0	3
	Science Elective	3	0	3
	Total	13	14	17

TOTAL CREDITS - 66

Room design: Kathleen King, Interior Design Program Coordinator and Angela Boksanske, Interior Design student.

Interior Design Certificate

Fall Semester		TH	LAB	CR
ID110	Interior Design I	2	3	3
ID112	Color in Interior Design	2	3	3
ID115	Auto CAD Design I for Interior Design	2	2	3
ID200	Materials & Components	3	0	3
ID210	Interior Design II	2	3	3
ID215	Textiles	3	0	3
ID225	Interior Design Internship	1	8	3
HUMA118	Survey of European Architecture & Design	3	0	3

TOTAL CREDITS - 24

Liberal Arts
Associate in Arts

The Liberal Arts program defines its mission in the following ways:

To provide a transfer degree program which supports the development and discovery of academic interests.

To provide the courses that will satisfy the general education requirements in accordance with the mission statement of NHCTC, which calls for an integrated professional and liberal education.

To offer focused Associate of Arts concentrations providing the opportunity for students to transfer to specific baccalaureate degrees at four-year institutions.

To provide a selection of transferable elective offerings in the Arts and Science disciplines that support intellectual enrichment and continued study in a body of knowledge.

To provide curriculum in the Arts and Sciences that gives students the opportunity to interpret facts, solve problems, evaluate issues, and think critically.

To provide a first year course focused on the academic habits of successful college students and transition to the college environment.

The Associate of Arts degree program provides a solid foundation in arts and sciences, allowing students to transfer with confidence to Baccalaureate programs at four-year colleges and universities. A wide variety of choices exist for students to explore content areas in arts and sciences. **American Studies** courses offer an interdisciplinary approach to topics related to American society. **English** selections include writing courses, literature, oral communications, and technical writing. **Social Science** selections include anthropology, economics, history, geography, political science, psychology and sociology. **Foreign Language** choices include American Sign Language, French, German and Spanish. **Humanities** selections include courses in western civilization, literature, philosophy, communications and creative writing, and American Studies. **Fine Arts** selections include drawing, painting, and photography. **Math** courses offer traditional theoretical and applied courses. **Science** selections include biological sciences, earth science and physics.

Students wishing to focus their liberal arts studies in a specific discipline are able to concentrate their 24 liberal arts elective credits in that discipline. Each student's program is developed in consultation with a Liberal Arts faculty advisor.

LIBERAL ARTS CONCENTRATIONS

The following focused Associate of Arts concentrations provide the opportunity for students to transfer to specific Baccalaureate degrees at four-year institutions:

- Liberal Arts/American Studies
- Liberal Arts/Business
- Liberal Arts/Teacher Preparation

In addition to fulfilling the mission of baccalaureate transfer, the program will also provide the core of general education requirements for all degrees at this college. Each student's program of study is developed in consultation with a faculty advisor in the specific concentration.

Liberal Arts Degree

The primary objective of the Liberal Arts Degree program is transfer, with a solid foundation in Arts and Sciences. The program is representative of the first two years of a baccalaureate program as well as the general education requirements for an associate degree in a specific field. Its academic format emphasizes access to various disciplines of knowledge, critical thinking, the principles and techniques of research within academic subject areas, and interdisciplinary approaches to learning. Students will find the program flexible enough to allow them to select courses based on the requirements of the four-year college to which they plan to transfer, or use their course selections to clarify their educational goals and to explore career opportunities and interests. This broad experience provides students with the academic exposure relevant to intellectual, personal and social growth. SAT testing may be required by some transfer institutions.

Liberal Arts Transfer Credit Policy: Liberal Arts and Science courses will be considered for transfer regardless of when they were taken as long as they meet minimum grade requirements. See individual department policies for program exceptions on general education requirements. In the case of English and math courses, if there is uncertainty whether coursework currency affects the student's ability to be successful in a subsequent course, students will be asked to take portions of the Accuplacer Placement Test to verify the skill level of the course being considered for transfer credit.

Transfer of a course to this institution does not guarantee transfer of that same course to subsequent institutions.

LIBERAL ARTS DEGREE PROGRAM OF STUDY

In compliance with the NHCTC System distribution requirements for an Associate in Arts Degree program, Manchester defines its program as follows:

CORE REQUIREMENTS:		**41 CREDITS**
ENGL110	College Composition I	4 Credits
ENGL214	College Composition II	3 Credits
INT101	College Success Seminar	1 Credit
	Lab Science Elective (BIOL, CHEM, ESCI, PHYS)	8 Credits
	Math Elective (at least one 4 credit)	7 Credits
	For. Lang./Humanities/Fine Arts Elective (AMER, ARTS, ENGL Literature, or ENGL 113, 210, 213, HUMA, PHIL, FREN, SPAN, ASL, GERM, HIST 120,130)	9 Credits
	Social Science Elective (AN, ECON, HIST, GEOG, POL, PSYC, SOC)	9 Credits

(Only courses above the 100 level can be applied towards the degree)

ELECTIVE REQUIREMENTS: 24 CREDITS

Liberal Arts and Sciences Electives (American Studies, Art, English, Geography, History, Humanities, Languages, Math, Philosophy, Psychology, Social Sciences, Sciences) can include three Open Electives appropriate to other programs' pre-requisites. Electives must include at least three Liberal Arts and Science courses at the 200 level. A computer literacy course may be included within the open elective area.

TOTAL CREDITS - 65

Liberal Arts/American Studies

American Studies, a concentration within Liberal Arts, is the interdisciplinary study of the United States and all its local, national, and global contexts. Drawing from a variety of content areas and methodologies, American Studies focus on particular American moments, places and ideas such as baseball, literature, malls, jazz, amusement parks, historical sites, comic books, gravestones, automobiles, fashion and landscapes in order to pursue questions such as: what is American culture?; what does it mean to be American?; who, what, and where is 'American'?; and what is at stake when, and in the manner in which we ask these questions? The degree program is designed to provide students with the rigorous interdisciplinary training necessary to transfer into baccalaureate programs in not only American Studies, but related fields as well, such as English, History, Political Science, Education, Sociology, Anthropology and others. Students with degrees in American Studies have found jobs in a wide variety of fields such as publishing, education, communications, government, public service, public relations, marketing, management, law, and social welfare, to name a few.

Liberal Arts/American Studies Transfer Credit Policy: In addition to NHCTC-Manchester transfer credit policies, Liberal Arts and Science courses will be considered for transfer regardless of when they were taken as long as they meet minimum grade requirements. In the case of English and math courses, if there is uncertainty whether coursework currency affects the student's ability to be successful in a subsequent course, students will be asked to take portions of the Accuplacer test to verify the skill level of the course being considered for transfer credit.

NOTE: Transfer of a course to this institution does not guarantee transfer of that same course to subsequent institutions.

With the exception of AMER110 Intro to American Studies, ENGL110 College Composition I, and INT101 College Success Seminar (all of which would be recommended for first semester of the student's first year), and ENGL127 Intro to Literary Analysis (recommended to be taken prior to the American literature survey courses), there is no specified order or schedule of courses for program majors.

CORE REQUIREMENTS		**41 CREDITS**
INT101	College Success Seminar	1 Credit
ENGL110	College Composition I	4 Credits
ENGL 214	College Composition II	3 Credits
ENGL127	Introduction to Literary Analysis	3 Credits
	Lab Science Elective	8 Credits
	Math Elective (at least one 4-credit)	7 Credits
	For. Lang./Humanities/Fine Arts Elec.	6 Credits
	Social Science Elective	9 Credits

It is recommended that students make elective choices based upon specific 4 year colleges' transfer requirements and general education cores.

AMERICAN STUDIES CONCENTRATION		**24 CREDITS**
AMER110	Introduction to American Studies	3 Credits
AMER210	American Studies Seminar	3 Credits
AN101	Anthropology	3 Credits
ENGL209	American Lit. through the Civil War	3 Credits
ENGL220	American Lit. After the Civil War	3 Credits
HIST202	US History Through 1870	3 Credits
HIST204	US History 1870 to the Present	3 Credits
POL110	American Government	3 Credits

TOTAL CREDITS - 65

Liberal Arts/Business

The Department of Liberal Arts and the Department of Business Studies at NHCTC offer a new Associate in Arts in Liberal Arts/Specialization in Business Studies degree. This degree offers graduates an opportunity to gain a general perspective of business fundamentals while taking liberal arts courses.

The Associates in Arts in Liberal Arts/Specialization in Business Studies degree is designed to facilitate transfer to a four-year institution for continued study in either liberal arts or business administration. Additionally, the program prepares students for entry-level jobs in the business world. This degree provides the framework needed for successful business careers in management, high-tech industries, manufacturing, banking, health care, communications, service industries, and non-profit organizations.

Liberal Arts/Business Transfer Credit Policy: In addition to NHCTC-Manchester transfer credit policies, appropriate transfer credits for business courses may be accepted within a 10- year time frame.

DEGREE PROGRAM-FIRST YEAR

Fall Semester		TH	LAB	CR
ACCT113	Accounting and Financial Reporting I	3	0	3
BUS114	Management	3	0	3
BUS110	Introduction to Business	3	0	3
CIS110	Introduction to Computers	2	2	3
ENGL110	College Composition I	4	0	4
INT101	College Success Seminar	1	0	1
	Total	16	2	17

Spring Semester		TH	LAB	CR
ACCT123	Accounting and Financial Reporting II	3	0	3
ENGL 214	College Composition II	3	0	3
ECON134	Macroeconomics	3	0	3
MKTG125	Principles of Marketing	3	0	3
MATH131	College Algebra I	3	0	3
	Business Elective *	3	0	3
	Total	18	0	18

SECOND YEAR

Fall Semester		TH	LAB	CR
ECON135	Microeconomics	3	0	3
MATH200	Finite Mathematics	4	0	4
PHIL240	Ethics	3	0	3
	Lab Science Elective	4	0	4
	For. Lang./Humanities/Fine Arts Elective	3	0	3
	Total	17	0	17

Spring Semester		TH	LAB	CR
	Lab Science Elective	4	0	4
	For. Lang./Humanities/Fine Arts Elective	3	0	3
	Business Elective *	3	0	3
	Business Elective *	3	0	3
	Social Science Elective	3	0	3
	Total	16	0	16

TOTAL CREDITS - 68

*Business Elective: Must be one of the following: (ACCT213, ACCT215, BUS210,BUS211, BUS221, BUS224, MKTG205, MKTG210)

Liberal Arts/Teacher Preparation

The Liberal Arts/Teacher Preparation degree is designed to allow students to transfer to a four-year degree program to become teachers. The program allows students to experience elementary, middle, and secondary education, and has a common first year of course work. In the second year, students choose courses in any one of the following areas: math, science, social science, English, foreign languages, elementary education and special education. Completion of these elective courses will demonstrate content expertise required to become eligible for certification once the baccalaureate degree is completed. Elective courses are selected in consultation with the student's advisor. Students are expected to declare their area of focus prior to the beginning of the second year of the program. This degree also meets the requirements for paraprofessionals seeking an associate degree in fulfillment of national and state requirements. An interview with the program faculty advisor is also required as part of the admission process.

Liberal Arts/Teacher Preparation Transfer Credit Policy:
In additionto NHCTC Manchester transfer credit policies, appropriate education courses will be accepted if taken within a five-year period. Exceptions to this policy, based on professional experience, may be granted at the discretion of the department chair. Proper documentation will be required to initiate this process.

DEGREE PROGRAM-FIRST YEAR

Fall Semester		TH	LAB	CR
EDU101	Introduction to Exceptionalities	3	0	3
EDU104	Foundations of Education	3	0	3
ENGL110	College Composition I	4	0	4
CIS110	Introduction to Computers	2	2	3
INT101	College Success Seminar	1	0	1
PSYC110	Introduction to Psychology	3	0	3
	Total	16	2	17

Spring Semester				
AN101	Introduction to Anthropology	3	0	3
EDU201	Teaching Methods I	3	0	3
PSYC210	Human Growth & Development	3	0	3
PSYC230	Educational Psychology	3	0	3
	English Literature Course	3	0	3
	For. Lang./Huma/Fine Arts Elect	3	0	3
	Total	18	0	18

SECOND YEAR

Fall Semester		TH	LAB	CR
Educational Transfer Focus Elective **		3	0	3
Educational Transfer Focus Elective **		3	0	3
Lab Science (BIOL, CHEM, ESCI, PHYS)		3	3	4
Math Elective*		4	0	4
For. Lang./Humanities/Fine Arts Elective		3	0	3
	Total	16	3	17

Spring Semester				
POL110	American Government	3	0	3
Educational Transfer Focus Elective **		3	0	3
Lab Science (BIOL, CHEM, ESCI, PHYS)		3	3	4
Math Elective*		4	0	4
For. Lang./Humanities/Fine Arts Elective		3	0	3
	Total	16	3	17

TOTAL CREDITS - 69

***Math Electives** can only be Finite Math, Pre-Calculus, Calculus I, Calculus II, and Probability &Statistics.

****Educational Transfer Focus Electives:** Any course offered at the college with the exception of courses on the following list. These courses **cannot** be used for an Educational Transfer Focus elective: any course with an academic level less than 100, any cooperative course (co-op), any internship, any practicum, any clinical or clinical affiliation, any externship, any self-assessment course, any senior project course, any internship seminar, any capstone course, any professional seminar, GA101.

Special Education Certificate

The certificate in special education can be earned independently or as part of the Liberal Arts/Teacher Preparation Associate's Degree. This certificate includes three courses that fulfill the requirements of the Education Focus Transfer electives described at left. The certificate is also useful for currently employed paraprofessionals seeking approval as highly qualified under federal No Child Left Behind requirements. Courses in this certificate are:

REQUIRED CORE COURSES

		TH	LAB	CR
EDU215	Behavioral Challenges in the Classroom	3	0	3
EDU220	Families and Professionals in Special Education	3	0	3
EDU225	Curriculum Planning and Implementation for Children w/Unique Learning Characteristics	3	0	3
PSYC110	Introduction to Psychology	3	0	3

EARLY CHILDHOOD EDUCATION OPTION - (12 credits)
OR
SCHOOL AGE OPTION - (12 credits)

Early Childhood Education Option - must take all 12 credits

		TH	LAB	CR
ECE100	Child Growth and Development	3	0	3
ECE104	Foundations of Early Childhood Education	3	0	3
ECE112	Learning Environments	3	0	3
ECE114	Young Children with Special Needs	3	0	3

School Age Option - must take all 12 credits

		TH	LAB	CR
EDU101	Introduction to Exceptionalities	3	0	3
EDU104	Foundations of Education	3	0	3
EDU210	Teaching Methods		0	3
PSYC210	Human Growth and Development	3	0	3

TOTAL - 24 CREDITS

Management
Associate in Science

The Department of Business Studies at NHCTC offers a Management Associate Degree and a Management Certificate.

The Associate in Science Degree in Management emphasizes broad management competencies in finance, marketing, human resources, economics, law, and computers. All of these competencies are needed in industry, non-profit, and service organizations. The study of management focuses on how organizations develop and use strategies to compete in national and global arenas within the increasingly complex and changing social, political, economic and technological environment.

Students in the program are encouraged to relate theoretical learning to practice and establish bridges between the classroom and the work environments. The Associate of Science Degree in Management provides the framework needed for successful management careers in high-tech industries, manufacturing, banking and finance, health care, communications, service industries, and non-profit organizations.

The Management degree provides students with a solid management foundation in preparation for a career, and/or it offers a base for seamless transfer to a four-year institution in pursuit of a bachelor's degree. The Management Associates degree transfers in its entirety to many four-year colleges. For example, Southern New Hampshire University accepts 90 credits from NHCTC business students and awards scholarships to NHCTC management graduates based on academic performance. Franklin Pierce college also accepts the management associates degree in full and offers a very nice scholarship package to our business graduates.

The Business Studies Department is nationally accredited by the Association of Collegiate Business Schools and Programs (ACBSP). This accreditation provides transfer opportunities for our graduates in all regions of the country.

Management Transfer Credit Policy: In addition to NHCTC-Manchester transfer credit policies, appropriate transfer credits for management courses may be accepted within a 10-year time frame.

DEGREE PROGRAM-FIRST YEAR

Fall Semester		TH	LAB	CR
ACCT113	Accounting and Financial Reporting I	3	0	3
BUS114	Management	3	0	3
CIS110	Introduction to Computers	2	2	3
ENGL110	College Composition I	4	0	4
INT101	College Success Seminar	1	0	1
MATH131	College Algebra I	3	0	3
	Total	16	2	17
Spring Semester				
ACCT123	Accounting and Financial Reporting II	3	0	3
BUS211	Business Law	3	0	3
ECON134	Macroeconomics	3	0	3
MATH202	Probability and Statistics	4	0	4
	Science Elective	3	0	3
	Total	16	0	16

SECOND YEAR

Fall Semester		TH	LAB	CR
BUS124	Small Business Management	3	0	3
BUS 224	Human Resource Management	3	0	3
ECON135	Microeconomics	3	0	3
MKTG125	Principles of Marketing	3	0	3
PHIL240	Ethics	3	0	3
	Total	15	0	15
Spring Semester				
BUS210	Organizational Communications	3	0	3
BUS221	Business Finance	3	0	3
BUS282	Capstone Research	3	0	3
	Business Elective (ACCT, BUS, ENT, FINC, MKTG)	3	0	3
	For. Lang./Humanities/Fine Arts Elective	3	0	3
	English Elective	3	0	3
	Total	18	0	18

TOTAL CREDITS - 66

Management Certificate

		TH	LAB	CR
ACCT113	Accounting and Financial Reporting I	3	0	3
ACCT123	Accounting and Financial Reporting II	3	0	3
BUS114	Management	3	0	3
BUS211	Business Law	3	0	3
BUS224	Human Resource Management	3	0	3
CIS110	Introduction to Computers	2	2	3
	Business Elective **(**ACCT, BUS, ENT, FINC, MKTG)	3	0	3
	Business Elective (ACCT, BUS, ENT, FINC, MKTG)	3	0	3

TOTAL CREDITS - 24

Marketing
Associate in Science

The Department of Business Studies at NHCTC offers a Marketing Associates Degree and a Marketing Certificate.

In an era of global, digitized, interactive business environments, Marketing offers one of the best career opportunities for today's business students. Marketing is a broad field, which includes activities related to selecting, designing, packaging, pricing, advertising, selling, distributing, and servicing a product in the domestic and/or international marketplace. It is the driving force in most businesses.

Marketing is critically important to American business. Top management in companies realize that understanding the marketplace and consumer wants and needs requires competent marketing personnel, from marketing researchers to creative advertisers. The degree to which a company responds to customer demands greatly impacts an organization's success. Marketing classes integrate theory and practical applications while applying related business knowledge of computers, accounting, and management principles.

Marketing personnel are employed in retail, industrial and commercial firms, schools and hospitals, both locally and internationally. Marketing offers something for every business student - a desk job as a market research analyst, or travel and excitement with the public as a salesperson, retailer, or public relations professional.

The A.S. degree provides students with a solid marketing foundation in preparation for employment, or it offers students a strong educational base, which will seamlessly transfer in its entirety to many four-year colleges. Southern New Hampshire University awards scholarships to NHCTC Marketing graduates based on academic performance and will and will accept up to 90 transfer credits. Franklin Pierce College accepts the marketing degree and also has a scholarship package for our graduates. Plymouth State University and UNH-Manchester are just a few of the other local colleges that accept our marketing graduates.

The Business Studies Department is nationally accredited by the Association of Collegiate Business Schools and Programs (ACBSP). This accreditation provides transfer opportunities for our graduates in all regions of the country.

Marketing Transfer Credit Policy: In addition to NHCTC-Manchester transfer credit policies, appropriate transfer credits for marketing courses may be accepted within a 10- year time frame.

DEGREE PROGRAM-FIRST YEAR

		TH	LAB	CR
Fall Semester				
MKTG125	Principles of Marketing	3	0	3
ACCT113	Accounting and Financial Reporting I	3	0	3
CIS110	Introduction to Computers	2	2	3
ENGL110	College Composition I	4	0	4
INT101	College Success Seminar	1	0	1
MATH131	College Algebra I	3	0	3
	Total	16	2	17
Spring Semester				
ACCT123	Accounting and Financial Reporting II	3	0	3
BUS211	Business Law	3	0	3
ECON134	Macroeconomics	3	0	3
MATH202	Probability and Statistics	4	0	4
	Science Elective	3	0	3
	Total	16	0	16

SECOND YEAR

		TH	LAB	CR
Fall Semester				
MKTG210	Advertising	3	0	3
BUS155	Retailing Management	3	0	3
CDI111	Electronic Publishing I	2	3	3
ECON135	Microeconomics	3	0	3
ENGL113	Oral Communications	3	0	3
	Total	14	3	15
Spring Semester				
MKTG135	Consumer Behavior	3	0	3
MKTG205	International Marketing	3	0	3
MKTG224	Sales & Sales Management	3	0	3
BUS210	Organizational Communications	3	0	3
BUS282	Capstone Research	3	0	3
	For. Lang./Humanities/Fine Arts Elect.	3	0	3
	Total	18	0	18

TOTAL CREDITS - 66

Marketing Certificate

		TH	LAB	CR
MKTG125	Principles of Marketing	3	0	3
MKTG135	Consumer Behavior	3	0	3
MKTG205	International Marketing	3	0	3
MKTG210	Advertising	3	0	3
MKTG224	Sales & Sales Management	3	0	3
ACCT113	Accounting and Financial Reporting I	3	0	3
BUS282	Capstone Research	3	0	3
CIS110	Introduction to Computers	2	2	3
	Business Elective (ACCT, BUS, ENT, FINC, MKTG)	3	0	3

TOTAL CREDITS - 27

Medical Assistant
Associate in Science

Our nationally accredited Medical Assistant program emphasizes the skills and knowledge needed to obtain employment in doctors' offices, clinics, insurance companies, and other medical facilities. This exciting and challenging program offers all major clerical and clinical courses in the student's first year. Students may choose the professional certificate program, where they will complete a summer internship following their first two semesters, or the degree program, where they will receive advanced clinical procedures, learn how to interact with people of different cultures, and complete their internship during their second year.

Graduates of the Medical Assistant program are trained to work under the direction of physicians to provide quality health care. As a Medical Assistant, you are trained to complete patient intake, take vital signs, assist the physician with patient exams, clinical procedures, and office surgeries, give injections, administer EKGs, and perform venipuncture. Administrative training includes scheduling appointments, processing insurance claims, posting insurance/patient payments, and completing physician referrals.

Both degree and certificate programs are competency based so that graduates are comprehensively prepared to enter any medical office with confidence. Graduates of both programs are eligible to sit for the national certification exam for medical assistants.

In 2005, both the Professional Certificate and the Associate Degree programs were awarded a 10-year accreditation status by the Commission on Accreditation of Allied Health Education Programs (www.caahep.org) upon the recommendation of the Curriculum Review Board of the American Association of Medical Assistants Endowment (AAMAE): Commission on Accreditation of Allied Health Education Programs, 35 East Wacker Drive, Suite 1970, Chicago, Il 60601-2208, (312) 553-9355.

In addition to college-wide admission requirements, students in the Medical Assistant program must possess verifiable keyboarding skills at 30 - 35 cwpm before taking ADMN122.

Technical Standards *~ Applicants must have:*

1. Good manual dexterity.
2. Ability to stand for extended periods of time.
3. Normal vision for reading instructions and instruments.
4. Ability to communicate well verbally and understand verbal instructions.
5. Travel policy: Transportation to and from internship is the responsibility of the student.
6. Possess professional liability insurance for Internship (available at the college).
7. Possess and maintain personal health insurance.
8. Submit a report of a current physical exam including vaccination status, up-to-date tetanus booster and TB test. Hepatitis B series must be completed before internship.
9. American Heart Association Healthcare Provider CPR or American Red Cross equivalent prior to beginning internship.
10. First Aid Certified. (May be included in CPR certification)

Professional Certificate students must be enrolled in MEDA223 Medical Assistant Internship immediately following MEDA125 Clinical Lab Procedures I. Associate Degree students must enroll in MEDA218 Clinical Lab Procedures II immediately following MEDA125 Clinical Lab Procedures I. MEDA223 Medical Assistant Internship must immediately follow MEDA218 Clinical Lab Procedures II. Students who place in MATH070 or MATH080 based on the Accuplacer test must complete that course prior to enrollment in MEDA123 Introduction to Pharmacology.

PROGRESSION:
Students must maintain a grade of “C” or better in most major required courses. Please consult the course description for further information.

Fall Semester		TH	LAB	CR
ADMN122	Executive Keyboarding	2	2	3
AH110	Medical Terminology	3	0	3
BIOL106	Human Body	3	0	3
BIOL107	Human Body Lab	0	2	1
PSYC110	Introduction to Psychology	3	0	3
INT101	College Success Seminar	1	0	1
	Total	12	4	14
Spring Semester				
MEDA122	Medical Office Procedures	3	0	3
MEDA123	Introduction to Pharmacology	3	0	3
MEDA124	Insurance for the Medical Office	4	0	4
MEDA125	Clinical Lab Procedures I	2	6	4
MEDA126	Medical Law and Ethics	3	0	3
	Total	15	6	17

Fall Semester		TH	LAB	CR
MEDA218	Clinical Lab Procedures II	2	3	3
AH200	Transcultural Health Care	3	0	3
ENGL110	College Composition I	4	0	4
MATH131	College Algebra I	3	0	3
	For. Lang./Humanities/Fine Arts Elective	3	0	3
	Total	15	3	16
Spring Semester				
MEDA223	Medical Assistant Internship	0	12	4
MEDA225	Internship Seminar	1	0	1
	English Elective	3	0	3
	Liberal Arts Elective	3	0	3
	Liberal Arts Elective	3	0	3
	Open Elective	3	0	3
	Total	13	12	17

TOTAL CREDITS - 64

Medical Assistant Professional Certificate

		TH	LAB	CR
MEDA122	Medical Office Procedures	3	0	3
MEDA123	Introduction to Pharmacology	3	0	3
MEDA124	Insurance for the Medical Office	4	0	4
MEDA125	Clinical Lab Procedures I	2	6	4
MEDA126	Medical Law and Ethics	3	0	3
MEDA223	Medical Assistant Internship	0	12	4
MEDA225	Internship Seminar	1	0	1
ADMN122	Executive Keyboarding	2	2	3
AH110	Medical Terminology	3	0	3
BIOL106	Human Body	3	0	3
BIOL107	Human Body Lab	0	2	1
ENGL110	College Composition I	4	0	4
INT101	College Success Seminar	1	0	1
PSYC110	Introduction to Psychology	3	0	3

Students who place in MATH070 or MATH080 based on the Accuplacer test must complete that course prior to enrollment in MEDA123 Introduction to Pharmacology.

TOTAL CREDITS - 40

Medical Coding Certificate

Health care in the United States has undergone unprecedented changes in the recent past and even more changes are imminent. These changes have created an overwhelming and unmet demand for qualified medical coders. The Bureau of Labor Statistics reports a 51% increase in the need for medical coders during the next five years. This national shortage has increased the salary for the coding occupations, and salaries will continue to rise in the future. In addition to medical reimbursement, coding is used for planning and research, to track diseases, and by hospital administrators to determine if hospital facilities are being used effectively and meet the needs of the community.

Medical coding requires the coder to abstract information from the patient record and combine it with their knowledge of reimbursement and coding guidelines to optimize physician payment. This coding curriculum will train participants to code for medical offices, clinics, mental health facilities and hospitals. Successful completion of this certificate will prepare you to sit for the national Certified Coding Specialist exam.

		TH	LAB	CR
MCOD100	ICD-9-CM Coding	3	0	3
MCOD110	CPT Coding	3	0	3
MCOD215	Health Information Serv. Coding	3	0	3
AH110	Medical Terminology	3	0	3
BIOL106	Human Body	3	0	3
BIOL112	Basic Pathophysiology Theory	3	0	3
MEDA124	Insurance for the Medical Office	4	0	4

TOTAL CREDITS - 22

NOTE: MCOD100 and MCOD215 are only offered in the **spring** semester; MCOD110 is only offered in the **fall** semester; please plan accordingly.

Medical Secretary Certificate

Medical secretaries perform a variety of tasks necessary to make an office operate smoothly. They are responsible for scheduling patient appointments, completing referrals for inpatient/outpatient procedures, keeping patient charts updated, accepting and documenting payments, processing insurance claims, transcribing office reports and correspondence, and interacting with health carefacilities on a routine basis.

This certificate program provides the essentials needed to work in a medical office. Students will build a strong foundation of medical terminology, human anatomy, and prescription drugs before continuing on to courses requiring their application. Computer courses/applications and a course in medical transcription will prepare graduates to feel comfortable with all types of secretarial duties associated with a doctor's office, hospital, or insurance company.

		TH	LAB	CR
MEDA122	Medical Office Procedures	3	0	3
MEDA123	Intro to Pharmacology	3	0	3
MEDA124	Insurance for the Medical Office	4	0	4
MEDA127	Medical Transcription I Lab	0	3	1
ADMN111	Keyboarding I	3	0	3
ADMN122	Executive Keyboarding	2	2	3
ADMN126	Admin. Transcription Theory	3	0	3
AH110	Medical Terminology	3	0	3
BIOL106	Human Body	3	0	3
ENGL110	College Composition I	4	0	4
CIS110	Introduction to Computers	2	2	3

TOTAL CREDITS - 33

Phlebotomy Certificate

Phlebotomists (PBT) are essential members of the health care delivery team who are primarily responsible for collecting blood specimens from patients for laboratory testing. Qualified phlebotomists may be employed in hospital laboratories, private laboratories, doctors' offices, clinics, emergency rooms or blood donor centers.

Classroom learning is combined with a 120-hour internship that is performed in a clinical laboratory or other health care facility to provide the skills required of a certified phlebotomist. Fine motor skills and some mobility are required for students to successfully perform in most clinical facilities: drawing patient's blood in the inpatient and outpatient settings, processing specimens including operating mechanical and computerized equipment, and performing clerical duties. Good communication skills are critical in dealing with patients, clients, physicians, nurses, and other health care workers. Internships are limited and offered only during the second eight weeks of the spring and fall semesters. Students who part-icipate in the internship must make themselves available on a full-time basis for three 40-hour weeks. There are no evening or weekend internships.

Applicants for the Phlebotomy Program must satisfy the general requirements for admission to the College. Student's health status must be compatible with the skills of PBT.

Students who successfully complete this program are qualified for immediate employment and are eligible to sit for national certification examination offered by several professional organizations.

To help assure success in the phlebotomy course, all students must take the Accuplacer placement test and meet reading level standards prior to registering for Phlebotomy, AH 115.

Technical Standards ~ Applicants must have:

1. Good manual dexterity
2. Be able to stand on their feet for extended periods of time.
3. Normal vision for reading instructions and labeling of specimens.
4. Ability to communicate well verbally and understand verbal instructions.
5. Possess and maintain personal health insurance.
6. Possess professional liability insurance for both the class and the Internship (available at the college)
7. Submit a report of a current physical exam and have on file immunity to measles, mumps and rubella, negative Mantoux test for TB (within one year) and proof of receipt of hepatitis B vaccine series or signed waiver.
8. Travel policy: transportation to and from internship site is responsibility of student.

FALL OR SPRING SEMESTER	TH	LAB	CR
First 8 weeks			
AH115 Phlebotomy	3	0	3
Second 8 weeks			
AH135 Phlebotomy Internship	0	9	3

TOTAL CREDITS - 6

Consult the college's web site (www.manchester.nhctc.edu) for a complete explanation of program requirements or call 668-6706 ext. 230 for an introductory packet.

Nursing
Associate in Science

The Associate Degree Nursing Program is accredited by the National League for Nursing Accrediting Commission (NLNAC) and approved by the NH Board of Nursing. Upon satisfactory completion of the program, the graduate is eligible to apply to ETS and the New Hampshire Board of Nursing for the National Council Licensing Examination for Registered Nurses (NCLEX-RN). The New Hampshire Board of Nursing's licensing regulations may restrict candidates who have been involved in civil or criminal legal proceedings. Questions about licensing restrictions should be addressed to the New Hampshire Board of Nursing, 21 South Fruit Street, Suite 16, Concord, NH 03301. Questions about the status of accreditation for the Nursing program should be addressed to the National League for Nursing Accrediting Commission, 61 Broadway-33rd floor, New York, NY 10006.

The goal of the Associate Degree Nursing Program is to prepare the student to provide direct care to clients in acute care, long term care and other structured settings. As a member of the discipline, the student collaborates with the health care team to provide and manage the care of clients. The student utilizes the nursing process as a basis for decision making in caring for well clients and clients with possible or actual health problems.

Learning experiences and clinical practica may vary in time and in locations, including days, evenings, and/or weekends.

The program may be completed on a full-time or part-time basis. Classroom and clinical components of the Nursing courses must be completed concurrently. All nursing courses must be completed within four years of the date of entry into the first nursing course. Students re-entering the program must meet current requirements necessary for graduation. Advanced Placement and transfer are possible through transfer credit and/or Excelsior College testing. Students may enroll in Liberal Arts and Science courses prior to admission to the Nursing program. Enrollment in these courses does not guarantee acceptance into the Nursing program. Students admitted into the Nursing program must take nursing courses in sequence, and must achieve a minimum grade of C (73.33) in all major theory and science courses (Nursing, Anatomy & Physiology I & II, and Microbiology) and a grade of "Pass" in clinical courses in order to continue in the program.

All nursing students must be CPR-certified before taking any nursing courses and must maintain the certification throughout the program. This program is physically strenuous and requires some heavy lifting. Individuals must be able to meet the general health demands of the program in order to satisfy course objectives.

Admissions Criteria
A review of all COMPLETED applications will begin in March. Nursing program applications must be completed by February 28 to be considered for early acceptance in the fall class. If the class is not filled with qualified applicants by that deadline, we will accept completed applications until July 1. After that point, the program will be closed.

Nursing candidates must submit or complete the following criteria for admission consideration:

1. High school diploma, GED, or equivalent.
2. Satisfactory completion of high school biology, algebra, and chemistry or equivalent with a grade of "C" or greater or proof of current enrollment.
3. An official transcript of high school and/or post-secondary courses to verify prerequisites. Transcripts must have the high school or college seal or stamp to be accepted.
4. Complete the National League for Nursing Pre-admission-RN examination with percentiles of 50 or greater in the "All" category in each of the three areas tested: Math, Science andVerbal Ability. * Applicants are permitted to take this exam once in any 12 month period.
5. Two professional references, work or education related. (Forms provided by college.)
6. Complete an application for the program.

*The NLN Pre-Admission RN Exam is designed to identify areas that may need strengthening before a prospective student begins the major course of study in Nursing. If you would like to receive information regarding the NLN Pre-Admission Exam-RN or to register for a specific exam date, contact the Admissions Office at 668-6706, ext. 208.

Nursing Readmission Policy
Students matriculated in the Nursing program who withdraw or do not achieve the required minimum grade in the Nursing or science courses and are not able to continue in the Nursing program may be eligible for readmission consideration. A student may be readmitted to the Nursing program one time only. Students who have failed a Nursing course because of unsafe practice involving actions or non-actions are not eligible for readmission to the Nursing program (see Nursing Course Syllabi: Evaluation methods). Readmissions are contingent upon space availability. The student applying for readmission will be required to meet the curriculum requirements in effect at the time of readmission.
In order to be reconsidered for admission, the student must:

Submit a written, dated letter requesting readmission consideration to the Chair of the Department of Nursing. In this letter, briefly and generally outline the reason(s) you were previously unable to continue in the program and identify which Nursing course you are requesting readmission to.

Students who have requested readmission will be ranked according to their Nursing course average. As space availability is determined, students will be readmitted based on their ranking order. Students will then be notified of the status of their request in writing by the Chair of the Department of Nursing. Students who are readmitted to the Nursing program will follow the program of study in place at the time they are readmitted.

Advanced Placement or Transfer
Admission of advanced placement or transfer students is contingent upon space availability. In addition to the general admission criteria, students seeking advanced placement or transfer must have completed all prerequisite coursework by examination, challenge or transfer credit. Excelsior College examinations are available for the challenge process and are necessary to meet Nursing course requirements as follows:

Advanced Placement: You must be a currently licensed L.P.N.
In addition, to be considered for advanced placement into NURS211 Nursing III, you must successfully complete the following Excelsior College examinations. A minimum grade of "C" or better is required in all three exams in order to be granted credit:
#461: Nursing Concepts 1
#462: Nursing Concepts 2
#463: Nursing Concepts 3

Students accepted for advanced placement into the senior year are required to take NURS200 Advanced Placement Seminar prior to the start of the senior year.

Transfer: To be considered for Transfer from another Nursing program into NURS 112 Nursing II, you must successfully complete the following Excelsior College examination. A minimum grade of "C" or better is required in order to be granted credit:
#403: Fundamentals of Nursing

Nursing Transfer Credit Policy*:* In addition to specific nursing course transfer policies noted above and other NHCTC Manchester transfer credit policies, Anatomy & Physiology I and II and Microbiology must be taken within a 10- year period from the time of acceptance into the Nursing program.

Technical Standards
Upon acceptance and prior to registration, all nursing students after acceptance must:

1. Submit a report of a current physical examination, including all required health screening and immunizations (as indicated on the physical examination form).
2. Possess and maintain personal health insurance.
3. Possess and maintain professional liability insurance (available at the college campus).
4. Acquire and maintain certification from the American Red Cross: CPR for the Professional Rescuer Course or an American Heart Association equivalent.
5. Have a criminal background check.
6. Travel policy: transportation to and from the practicum site is the responsibility of the student.
7. Provide documentation that they have received the Hepatitis B vaccine or signed waiver.

DEGREE PROGRAM-FIRST YEAR

Fall Semester		TH	LAB	CR
NURS111	Nursing I	6	9	9
BIOL110	Human Anatomy & Physiology I	3	3	4
INT101	College Success Seminar	1	0	1
PSYC110	Introduction to Psychology	3	0	3
	Total	13	12	17
Spring Semester				
NURS112	Nursing II	4	15	9
BIOL120	Human Anatomy & Physiology II	3	3	4
PSYC210	Human Growth & Development	3	0	3
	Total	10	18	16

SECOND YEAR

Fall Semester		TH	LAB	CR
NURS211	Nursing III	4	15	9
BIOL210	Microbiology	3	3	4
ENGL110	College Composition I	4	0	4
	Total	11	18	17
Spring Semester				
NURS212	Nursing IV	3	18	9
MATH131	College Algebra I	3	0	3
	For. Lang./Huma/Fine Arts Elect	3	0	3
	English Elective	3	0	3
	Total	12	18	18

TOTAL CREDITS - 68

Real Estate (non-credit)

Real Estate Pre-licensing Exam Prep
This course is required for those applying to sell real estate in New Hampshire. It also appeals to those interested in learning specifics about buying a home or investment property, or simply expanding understanding of the profession. This 40-hour curriculum follows the NH Real Estate Commissioner's requirements that set the industry standards for real estate education when applying for a sales license.

Call the NH State Board of Realtors at 603-271-2701 or go to www.state.nh.us/nhrec for additional exam and licensing information. Call Corporate and Community Education in Manchester at 603-668-6706 for schedule information.

NCBU58 Real Estate Pre-Licensing Exam Prep Course (non-credit)

Real Estate Appraisal
For apprenticeship and licensing requirements, call the New Hampshire Real Estate Appraisal Board at 603-271-6186 or go to www.nh.gov/nhreab/.

The college offers 75 approved classroom hours that are required before an individual can start an apprenticeship. The USPAP course is mandatory. After completing 75 hours of approved classes, students may start their apprenticeship with a licensed appraiser. Students are responsible for locating their own licensed appraiser. Upon completion of 2000 apprenticeship hours and 90 total classroom hours, students may take the license exam..

The New Hampshire Real Estate Appraiser Board has approved the following courses toward qualifying and/or continuing education hours:

Course	Course Name	Qualifying Hrs.	Continuing Ed. Hours
NCRE12	Fundamentals of Construction for the Real Estate Appraiser Expires:March 2007	15	14
NCRE16	Introduction to Income Property Appraisal Expires:March 2007	32	28
NCRE10	Property Inspection for the Appraiser Expires:March 2007		7.5
NCRE13	Introduction to Real Estate Appraisal Expires:October 2006	40	Contact NHREAB for CE hours
NCRE15	2005 USPAP* Expires:March 2006	15	15
NCRE14	Uniform Residential Appraisal Report Expires:June 2007	15	14

*USPAP is mandatory for the 75 approved hours required before starting apprenticeships. Each year the College applies for the following year's USPAP course.

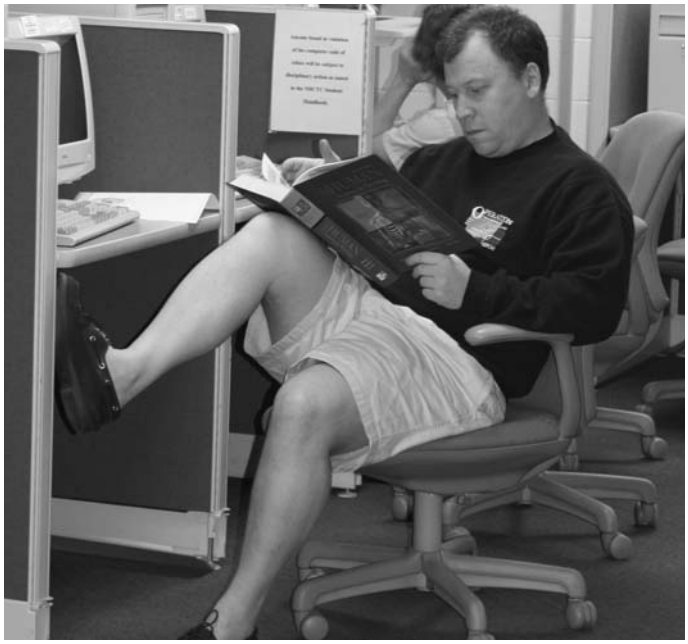
Call Corporate & Community Education in Manchester at 603-668-6706 for a schedule.

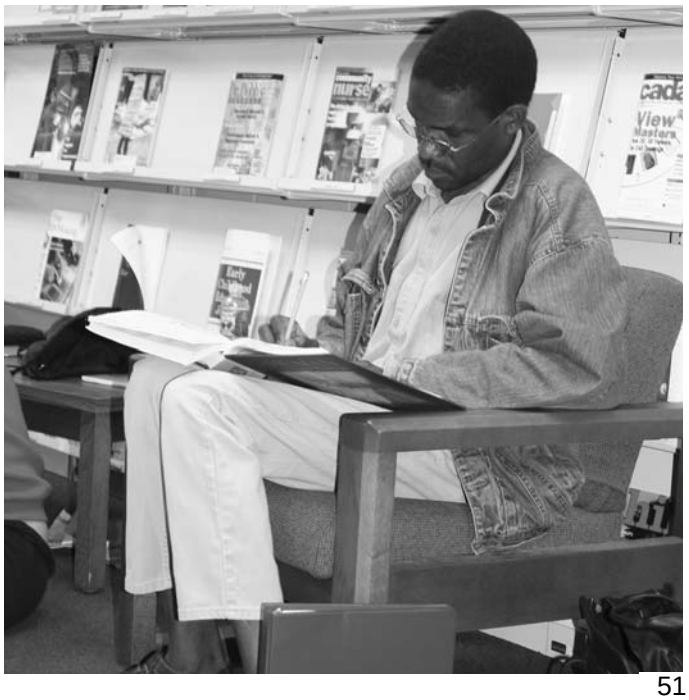
Septic System Certificate

The successful completion of this certificate acquaints the student with the techniques of New Hampshire's Septic System installation design rules. It is also prepares to student for the State of New Hampshire's Licensing exam for installers and designers.

		TH	LAB	CR
SD100	Soils Mechanics	3	0	3
SD150S	Septic System Surveying	3	0	3
SD200	Intro to Systems Design	3	0	3
CAD113	CAD for Non-Majors	1	3	2
OPTIONAL:				
SD110	Systems Installation	3	0	3

TOTAL CREDITS - 11/14





WELDING
ASSOCIATE IN APPLIED SCIENCE

The first year of Welding Technology concentrates on teaching technical skills in the four major processes: gas, shielded metal arc, metal inert gas, and tungsten inert gas welding. Classes in drafting, print reading, cost estimating, computer-aided design, manufacturing, repair techniques, and electrical theory are included. The academic classes emphasize developing skills in math and English.

The second year will refine students' welding skills to the extent of the code requirements for heavy plate and pipe welding. Classes cover welding codes, metallurgy, materials and testing, fabrication techniques, and robotics.

The Professional Certificate in Welding Technology is designed to meet entry-level employment objectives for non-code welding and includes the courses required for the first year of the Associate Degree in Welding Technology.

In addition to college-wide admission requirements, applicants to the Welding Technology Degree program should:

1. Have successfully completed courses in algebra and geometry.
2. Possess an understanding of the technology through experience, prior courses, reading, or observation of skilled welders (highly recommended).

Technical Standards

It is highly recommended applicants have:

1. Normal vision for reading instructions and for performing tasks (adaptive equipment acceptable).
2. Good manual dexterity with both hands and good hand/eye coordination.
3. Ability to visualize and portray ideas graphically.

DEGREE PROGRAM-FIRST YEAR

Fall Semester		**TH**	**LAB**	**CR**
WELD111	Gas/Arc Welding Lab	0	12	4
WELD112	Gas/Arc Welding Theory	3	0	3
WELD113	Technical Blueprint Reading	0	3	1
WELD114	Related Electricity	1	3	2
CIS110	Introduction to Computers	2	2	3
ENGL110	College Composition I	4	0	4
INT101	College Success Seminar	1	0	1
	Total	**11**	**20**	**18**

Spring Semester				
WELD121	MIG/TIG Welding Lab	0	12	4
WELD122	MIG/TIG Welding Theory	3	0	3
WELD125	Manufacturing & Repair Tech.	0	3	1
WELD186	Blueprint Reading for Welders	3	0	3
CAD113	CAD for Non-Majors	1	3	2
MATH111	Numerical Geometry	3	0	3
	Total	**10**	**18**	**16**

SECOND YEAR

Fall Semester		TH	LAB	CR
WELD211	Structural Code Welding Lab	0	12	4
WELD212	Code Welding Theory	3	0	3
WELD213	Metallurgy	2	2	3
MATH135	Numerical Algebra and Trigonometry	3	0	3
	English Elective	3	0	3
	Social Science Elective	3	0	3
	Total	**14**	**14**	**19**

Spring Semester				
WELD 220	Fabrication Techniques & Estimating	2	2	3
WELD 221	Pipe Code Welding Lab	0	12	4
WELD 223	Materials and Testing	3	3	3
PHYS 100	Introductory Physics	2	3	3
	For. Lang./Humanities/ Fine Arts Elective	3	0	3
	Total	**10**	**20**	**16**

TOTAL CREDITS - 69

WELDING TECHNOLOGY PROFESSIONAL CERTIFICATE (DAYS ONLY)

		TH	**LAB**	**CR**
WELD 111	Gas/Arc Welding Lab	0	12	4
WELD 112	Gas/Arc Welding Theory	3	0	3
WELD 113	Technical Blueprint Reading	0	3	1
WELD 114	Related Electricity	1	3	2
WELD 121	MIG/TIG Welding Lab	0	12	4
WELD 122	MIG/TIG Welding Theory	3	0	3
WELD 125	Manufacturing & Repair Tech.	0	3	1
WELD 186	Blueprint Reading for Welders	3	0	3
CAD 113	CAD for Non-Majors	1	3	2
ENGL110	College Composition I	4	0	4
MATH 111	Numerical Geometry	3	0	3
INT 101	College Success Seminar	1	0	1
CIS 110	Introduction to Computers	2	2	3

TOTAL CREDITS - 34

WELDING TECHNOLOGY CERTIFICATE (EVENINGS ONLY)

Successful completion of this program gives you the necessary welding skills required for employment as a combination welder, including SMAW pipe. AWS 3/8" Plate Bend test skills are required to enter the Weld III Advanced Pipe/Plate course.

		TH	LAB	CR
WELD 180	Basic Arc & Gas Welding	1	3	2
WELD 181	Intermediate Arc & Gas Welding	1	3	2
WELD 182	Welder Qualification & Testing	1	3	2
WELD 183	Advanced (SMAW) Pipe/Plate Welding	1	3	2
WELD 184	Gas Tungsten Arc Welding (TIG)	1	3	2
WELD 185	Gas Metal Arc Welding (MIG)	3	0	3
WELD 186	Blueprint Reading for Welders	3	0	3
MATH 111	Numerical Geometry	3	0	3

TOTAL CREDITS - 18

Course Descriptions

All credit and non-credit courses at NHCTC Manchester are assigned a course number.
Course numbers begin with a letter code designating the course's academic area. The following course descriptions are arranged alphabetically, by academic code, beginning with "ACCT" (Accounting) and ending with "WELD" (Welding).

Courses with numbers between "0 - 99" are considered developmental and any credit awarded cannot be used toward graduation requirements. Courses with numbers between "100 - 199" are considered beginning level courses and courses with numbers between "200 -299" are considered upper level courses.

Prerequisites for courses are identified after each description and may be waived only by the instructor. A Prerequisite Waiver Form must be completed prior to registration. These forms can be obtained in the Registrar's Office. Generally, upper level courses have prerequisites.

ENGLISH DEPARTMENT PLACEMENT POLICY
ENGL098 is the first in a sequence of developmental courses designed to build the requisite skills for success in ENGL110. The prerequisite for ENGL 099 is placement or a grade of C or better in ENGL098. In order to move directly from ENGL098 to ENGL110, the following conditions must be met: minimum grade of B in ENGL098 plus instructor approval OR Accuplacer placement in ENGL110.

The college reserves the right to review and modify this information throughout the year.

Elective Course Information In addition to the required courses in a student's program, students are given the choice to select from a variety of elective courses. Each program offers a different set of electives, so please refer to each individual program for specific options.

The following information will assist students with the variety of elective categories and the selection of elective courses. All academic subject codes and course numbers refer only to NHCTC Manchester courses.

English Elective: any course with the academic subject code of ENGL and a course number of at least 100. ***Social Science Elective:*** any of these designations: AN, ECON, GEOG, HIST, POL, PSYC, SOC. ***Foreign Language/Humanities Elective/Fine Arts:*** any of these designations: AMER, ARTS, ENGL Literature, or the following courses ASL, ENGL113, 210, 213, 214 HUMA, PHIL, FREN, GERM. SPAN, and HIST 120, 130. ***Math Elective:*** any course with the academic subject code of MATH and a course number of at least 100. ***Science Elective:*** any course with the academic subject code of BIOL, CHEM, ESCI, PHYS and a course number of at least 100. ***Business Elective***: any course with the academic subject code of ACCT, BUS, ENT, FINC, MKTG and a course number of at least 100.

Liberal Arts Elective: any course listed under the categories of English elective, Social Science elective, Foreign Language/Humanities/Fine Arts elective, Math elective or Science elective with a course number of at least 100.

Open Elective: any course that the college offers with a course number of at least 100. ESL courses are not considered open electives and cannot be counted toward graduation requirements.

ACCT113 Accounting and Financial Reporting I 3-0-3
This course is an introduction to accounting as the language of business and the need for accounting in the business world. Students will develop an understanding of the concepts and usage of assets, liabilities, equity, revenue and expense accounts. The student will be introduced to accounting procedures necessary to prepare financial statements utilizing current concepts and accounting principles. This includes journalizing transactions, trial balance, adjustments, closing entries, inventory, accounts receivable and payable, special journals, payroll, cash receipts, disbursements and banking procedures.

ACCT123 Accounting and Financial Reporting II 3-0-3
This course consists of a more in-depth study of accounting procedures and concepts. An emphasis is placed on accounts from the balance sheet such as accounts and notes receivable, plant and property, equipment, and current and long-term liabilities. This course will also involve comparison and contrasting of sole proprietorships, partnerships and corporations, as well as capital stock and stock transactions. The student will learn to use financial ratios to measure financial strength, profitability and liquidity. Prerequisite: ACCT113.

ACCT213 Cost Accounting I 3-0-3
Managerial Accounting is concerned with how accounting data is used within an organization. Managers need information to carry out three essential functions in an organization: (1) planning operations, (2) controlling activities, and (3) making decisions. The student will study what kind of information is needed, where this information can be obtained, and how this information can be used in planning, controlling and decision-making responsibilities. Budgeting, standard cost, cost of goods sold, job order and process costing, cost-volume-profit formulas and equivalent topics are examined. Prerequisite: ACCT123.

ACCT215 Cost Accounting II 3-0-3
This course is designed as a continuation of the concepts covered in ACCT213 where the student was introduced to the recording, classifying and reporting of costs management uses to plan, control and make decisions. The student will build on this foundation with a more in-depth analysis and reporting of costs. This analysis and reporting will include performance measures, financial statement analysis, capital budgeting and service department costing methods, as well as a further detailed analysis of activity-based costing and process costing. Prerequisite: ACCT213.

ACCT216 Software Systems Applications 2-2-3
This course is an introduction through hands-on experience to an integrated accounting software package. The student will evaluate the common software characteristics and features of accounting systems and review the internal controls for computerized accounting systems. The student will become proficient in processing transactions in a computerized accounting environment using a popular software package. Modules introduced are general ledger, financial statement preparation, accounts receivable, accounts payable, payroll, inventory, time and billing, fixed assets and depreciation, cost control, budgeting and reporting. Prerequisites: ACCT123 and CIS110.

ACCT223 Intermediate Accounting I 3-0-3
An extension of topics covered in ACCT113 and ACCT123. Further emphasis is placed on the study and application of generally accepted accounting principles. The student will encounter an in-depth study of accounting concepts, balance sheet, income statement and retained earnings. Included are detailed applications of accounting theory with the preparation and analysis of the financial statements. The student will also cover an in-depth analysis of cash receivables, inventory valuation, property plant and equipment, asset purchase and disposal, depreciation, and time value of money. Prerequisite: ACCT123.

ACCT233 Intermediate Accounting II 3-0-3
A continuation of the intensive examination began in ACCT223. A closer look at investments, leases, statement of cash flows, bonds, stock, income taxes, intangible assets, current and long-term liabilities, earnings per share, and stockholders equity will occur. Guidelines of revenue recognition are discussed and an evaluation of accounting changes and error analysis. Prerequisite: ACCT223.

ACCT243 Federal Income Taxes-Individual 3-0-3
This course provides a detailed presentation of Federal Income Tax Laws focusing on Internal Revenue Service procedures and court rulings as related to individuals as well as sole proprietorships. Applicable tax forms are prepared in conjunction with rules and regulations. Prerequisite: ACCT123.

ACCT244 Federal Income Taxes-Corps, Partnerships, Estates/Trusts 4-0-4
The student will be exposed to a detailed presentation of the theories and practice of Federal Income Tax Laws for Corporations, Partnerships, Estates and Trusts. Applicable tax forms will be studied in conjunction with rules and regulations. Prerequisite: ACCT123.

ADMN099 Developmental Computer Literacy and Keyboarding Non-Credit
This course is an introduction to the computer and to the techniques of the touch-typing system of keyboarding. This course involves learning the proper use of the personal computer through touch-typing by operating a popular word processing package (MS WORD). This is a developmental course.

ADMN111 Keyboarding I 3-0-3
Keyboarding I introduces touch-typing on the computer. Students will learn basic word processing functions as they format personal letters, business letters, envelopes, memos, reports and tabulations. Formatting rules pertaining to margins, tabs, and spacing will be reinforced throughout the course.

ADMN122 Executive Keyboarding 2-2-3
Executive Keyboarding continues supervised speed and accuracy development. While learning keyboarding concepts, the student will produce correspondence with more advanced features. Business letters with verifying formats, complex tabulations, business forms, man-uscripts, and tables will be included in this course. Prerequisite: ADMN111 or permission of the instructor.

ADMN125 Word Processing 2-2-3
Using Microsoft Word, students will become familiar with word processing. The course will take the student from the basic concepts of creating, editing, and filing to such features as columns, search and replace, headers and footers, and working with two documents at once. Prerequisite: ADMN111.

ADMN126 Administrative Transcription Theory 3-0-3
This course is designed to review proper grammar, spelling, word usage, and punctuation. Emphasis will be placed on the importance of grammar to produce mailable business correspondence. Review of correct letter, manuscript, report, and memo setup will be stressed. The importance of using reference materials will be reviewed.

ADMN200 Managing & Presenting Office Information 2-2-3
This class is for the Administrative Professional who wishes to become the subject matter expert utilizing Microsoft Access. The student will also create, edit, save, run and print a presentation in Microsoft PowerPoint while demonstrating the ability to use clip art, apply animation and slide transition effects, import text, and customize backgrounds. Prerequisite: CIS110.

ADMN220 Speedwriting 4-0-4
ABC Stenoscript Shorthand is a note-taking system using the letters of the alphabet and common punctuation symbols. With sustained practice, a student will reach speeds of 70 to 100 words per minute and be able to transcribe notes into mailable copy. Prerequisites: ENGL110, ADMN122, ADMN126.

ADMN222 Administrative Office Procedures 3-0-3
This is a capstone course in office procedures designed to make students utilize all skills previously learned to produce quality work with minimal instruction using simulations. Prerequisites: ADMN122, ADMN126 and ENGL110.

ADMN223 Administrative Assistant Internship 1-8-3
This capstone course will allow students to receive on the job experience at off site locations that is related to their area of academic concentration. Students are required to work eight hours per week at paid/unpaid positions that meet the criteria established by the Internship Manual. A seminar meeting one period per week will review internship progress and discuss issues related to successful employment. Outside work as well as research concerning the weekly topic will be required. Prerequisites: ACCT113, ADMN122, and CIS221.

AH110 Medical Terminology 3-0-3
This course is designed to provide the student with the ability to communicate in a professional, effective manner in a variety of health care settings. Through a realistic approach, the student will learn the basic rules for building and defining medical terms, the correct pronunciation and spelling of medical terms, and the application of medical terminology as it relates to each body system. The student is introduced to various types of medical records and reports encountered in the health care setting and provided with the necessary skills to read and interpret these reports. A variety of activities will guide the student in the application of medical terminology as it relates to the clinical world. Prerequisite: Grade of C or better required for Medical Assistant students to advance to BIOL106 or MEDA125.

AH115 Phlebotomy 3-0-3
This course is designed to provide the student with theoretical and introductory technical skills of a phlebotomist. Discussions include anatomy and physiology of the circulatory system, medical terminology, structures of the health care system and laboratory safety, types of laboratory analyses, specimen collection including techniques, equipment, sources of error and medicolegal issues surrounding the practice of phlebotomy. Prerequisite: Reading Comprehension at the 12th grade level based on the Accuplacer Test.

AH125 Community Health 3-0-3
Community Health is an introduction to the field of modern health care. The course will examine the history of health care, the concepts of human ecology, demography and epidemiology as they apply to health care, the health care needs of different populations within the community, including pregnant women, infants, children, adolescents, adults, and the elderly, community health promotion, the protection of the environment, and the public health services and resources currently available.

AH135 Phlebotomy Internship 0-9-3
After successful completion of AH115 Phlebotomy, the student will spend 120 hours in a clinical environment becoming proficient with the responsibilities and skills of a phlebotomist. Students will receive hands-on experience with venipuncture as well as capillary punctures. In addition, the ability to follow protocol for the collection of blood specimens will be stressed, all while under the supervision of qualified personnel in an accredited clinical laboratory. Requires program matriculation and immunization documentation. Prerequisite: Grade of "C" or better in AH115. NOTE: Only full-time, daytime internships available. No evening or weekends.

AH200 Transcultural Health Care 3-0-3
Health care professionals support the concept of holistic care and recognize the necessity of understanding the client's background in order to provide comprehensive care that respects personal values and individuality. To this end, Transcultural Health Care will provide a framework for all health-care providers to learn inherent concepts and characteristics of culture and provide the background necessary to interact knowledgeably and competently with a number of ethnic populations. Prerequisites: AH110, BIOL106 or BIOL110. Corequisite: MEDA123.

AMER110 Introduction to American Studies 3-0-3
This course is designed to introduce students to the topics, materials and methods attendant to an interdisciplinary study of American culture, identity and experience. Students will develop their critical, writing, and reading skills through a focused inquiry into particular American moments, places and ideas, and in doing so, begin to address some of the large questions around which American Studies are centered. (Fulfills Humanities requirement.)

AMER210 American Studies Seminar 3-0-3
This seminar is designed to provide a collaborative praxis in which, as a class, students formulate and develop an interdisciplinary American Studies research topic/problem. Using the class work as a model, students will then personalize an individual interdisciplinary American Studies research topic/problem and complete that project with peer and advisor support. Prerequisite: AMER110. (Fulfills Humanities requirement.)

AN101 Introduction to Anthropology 3-0-3
This course is designed to be an introductory college course in anthropology. The student will primarily be introduced to cultural anthropology, its key concepts, terminology, theories and research, with some introduction of physical anthropology and linguistics. The course is designed to nurture students to develop a broader scope of understanding and respect for human variation. (Fulfills Social Science requirement.)

ARTS110 Welding for the Artist 1-4-3
This course is an introduction to welding for the artist. The goal is for the student to develop structurally and aesthetically sound welding techniques in both arc and gas welding. These techniques will enable the art student to create both two- and three-dimensional artwork. Emphasis will also be placed upon safety, hands-on practice, equipment and process selection, joint design and filler metal characteristics. Students will also learn how to safely flamecut mild steel as well as bend metal using torch heat. Braze welding will also be discussed and practiced. Demonstrations in other welding processes more suitable to welding aluminum and stainless steel will be given. The art of blacksmithing will also be introduced. (Fulfills Fine Arts requirement.)

ARTS115 Photography I 2-3-3
Designed to give the novice photographer the hands-on skills to successfully create and interpret photographic images, this course is structured to help students master the technical tools of photography along with giving them the ability to perceive and understand photographs visually and artistically. Students will be involved in producing a series of tests and experiments in photography to better understand and use the camera. They will construct and use a pinhole camera. Students must also submit a review of a photography exhibit or photographer's book, along with an exhibit of work describing a documentary project of their choice. Students are required to complete 10 assignments and submit a final portfolio at the end of the term. Basic photographic methods are taught using 35mm cameras. Students will learn the basics of light and exposure using 35mm cameras and the pinhole camera. The course will cover the basic techniques of film exposure and processing. Students will learn to correctly expose their film. Students will learn to work in the darkroom and how to make a good black and white photograph. (Fulfills Fine Arts requirement.)

ARTS120 Digital Photography 2-3-3
This course is designed to provide basic skills and to develop skills in pixel-based photographic design and printing. Through the use of simple digital equipment, students will be able to shoot their image, import to their computer, manipulate using photo editing software, and produce a print without the use of traditional silver based materials. Students will use Adobe Photoshop as the primary image-editing tool. Using your camera software, save photos as JPEG files (on blank CD-Rom Disks, Memory Flash Card or other means of saving and copying edited files) and bring to the classroom for manipulation in Adobe Photoshop. Students will come away with a working knowledge in the skills for what is involved in digital printing and other available resources. (Fulfills Fine Arts requirement.)

ARTS123 Drawing I 2-3-3
Various drawing media and techniques are explored in this course. Assignments are designed to build drawing observation skills necessary for visual communications. (Fulfills Fine Arts requirement.)

ARTS125 Watercolors I 2-3-3
Students will acquire basic watercolor painting skills. They will explore painting techniques, different papers and watercolor mediums. Experimental techniques and affects along with tools and various watercolor mediums will be demonstrated and students will use skills they have acquired in assigned class projects. Prerequisite: ARTS123. (Fulfills Fine Arts requirement.)

ARTS210 Painting I 2-3-3
Students will acquire painting skills. There will be experimentation with several painting mediums, including watercolor, gouache, acrylics and oils. Tools and techniques will be demonstrated, examined and used. Some basic drawing abilities are helpful but not required. (Fulfills Fine Arts requirement.)

ARTS212 Painting II 2-3-3
Students will enhance painting skills with the knowledge already established in Drawing I and Painting I. Where Painting I began with experimentation of several painting mediums including watercolor, gouache, acrylics and oils, Painting II involves mroe advanced painting techniques. The major concentration will involve portrait and figure studies, still life and "plein air" outdoor paint tints. Prerequisites: ARTS123, ARTS210. (Fulfills Fine Arts requirement.)

ARTS215 Photography II 2-3-3
Photography II further investigates black and white photographic methods. Students will be exposed to advanced exposure, tone reproduction and darkroom techniques. The course will cover basic lighting techniques, including flash photography. Use of special filters to alter or inhance images will also be covered. Students will learn about archival procedures with both film and prints. Students will be required to keep a concise lab book, which records all technical data. Students will be introduced to alternative photographic techniques, such as hand coloring, toning and cyanotypes. The class will work together to produce a student show for the end of the term. Prerequisite: ARTS115 (Fulfills Fine Arts requirement.)

ARTS223 Drawing II 2-3-3
Students will continue developing drawing skills based on the knowledge and training aquired in Drawing I. More complex still-life, portrait and life figure drawings will be created in class. Further investigation of drawing materials and an introduction to more mediums will also be covered in this course. Prerequisite: ARTS123 (Fulfills Fine Arts requirement.)

ASL110 American Sign Language I 3-0-3
This is an introductory course that provides non-native signers with the opportunity to study American Sign Language. Emphasis will be on the development of visual receptive and expressive skills necessary for effective communication with the deaf and hard-of-hearing individuals. Through a variety of classroom experiences, students will learn to recognize and produce both manual and non-manual behaviors that reflect an understanding of the language's grammatical, semantic, spatial and cultural frameworks. (Fulfills Foreign Language requirement.)

ASL120 American Sign Language II 3-0-3
Builds on skills developed in ASL110. Participants will be introduced to more advanced vocabulary and grammatical features inherent in the language of ASL. Emphasis is on conversational fluency. Students will also explore the historical and cultural evolution of ASL through a variety of learning mediums. Prerequisite: ASL110 (Fulfills Foreign Language requirement.)

AUTO101 Introduction to Service & Maintenance 1-6-3
Serves as an introduction to automobile service and repair including shop safety, service department operations, safety inspection, and techniques for proper use of hand, power tools and equipment. Using the various skills learned, students will perform basic service and repairs on today's automobiles. Prerequisite: Accuplacer assessment test which indicates placement into ENGL110 and MATH111; developmental coursework may be taken concurrently.

AUTO102 Suspension & Steering Systems 2-3-3
An in-depth study of steering and suspension systems, alignment geometry and procedures including the service of these systems. An introduction to automatic ride control suspension, 4-wheel steering and active suspension. Wheel balance and balancing, wheel and tire diagnosis and repair are also covered in this course. Prerequisite/ Corequisite: AUTO101

AUTO103 Basic Electrical 3-3-4
A comprehensive study of the theory and diagnosis of electrical systems. Topics include: basic electricity theory and systems, magnetism, induction, batteries, semiconductors, automotive wiring circuits, electrical circuit repair and diagnosis techniques and the fundamentals of electronics. Prerequisite: AUTO101

AUTO104 Automotive Brakes 2-3-3
An extensive study of the construction, operation and diagnosis of modern brake systems. Topics include: the fundamentals of hydraulics, components and diagnosis; disc and drum brake operation and diagnosis; parking brake systems; power assist brakes, and disc and drum machining. Prerequisite: AUTO101 with a grade of "C" or better.

AUTO105 Automotive Engines 2-3-3
A comprehensive study of the theory, diagnosis and overhaul of gasoline-fueled internal combustion engines. This course provides a means of gaining knowledge and skills necessary to diagnose and service today's complex engines and systems. The principles of four-stroke cycle engine operation, identification of engine systems and components, cylinder head and valve train diagnosis and service; engine noise diagnosis, basics of diesel operation and turbocharger/ supercharger principles will be covered.
Prerequisite: AUTO101 with a grade of "C" or better.

AUTO106 Electronic Systems 2-3-3
This course is a continuation of AUTO103, and will expand the student's knowledge of electronic systems and electrical circuits. The course consists of an in-depth study of electronic control system input sensors, output devices and microprocessor control systems. Sensors and output device operation and oscilloscope analysis is also covered. Prerequisite: AUTO103 with a grade of "C" or better.

AUTO107 Automotive Climate Control 2-3-3
A comprehensive course covering the theory and operation of air conditioning systems, air management and electronic climate control systems. Also included are the service, maintenance and diagnosis of climate control systems. Prerequisite: AUTO106 with a grade of "C" or better.

AUTO108 Automotive Internship 0-15-5
The Automotive Internship provides an opportunity for practical experience at an approved site. It is a required component of the certificate program. Students are required to work a minimum of 240 hours. A log of all work will be completed for review with the internship coordinator and their site supervisor. Periodic evaluations based on performance and other issues related to successful employment will be completed and reviewed by the internship coordinator and site supervisor, and will be the basis for the final grade. Prerequisite: AUTO101 with a grade of "C" or better.

AUTO111 Introduction to Automotive Service 1-6-3
Serves as an introduction to automobile service and repair including shop safety, service department operations, safety inspection, and techniques for proper use of hand, power tools and equipment. Using the various skills learned students will perform basic service and repairs on today's automobiles.

AUTO112 Steering, Suspension & Alignment 2-3-3
An in-depth study of steering and suspension systems, alignment geometry and procedures including the service of these systems. An introduction to automatic ride control suspension, 4-wheel steering, and active suspension. Wheel balance and balancing, wheel and tire diagnosis and repair are also covered in this course.

AUTO113 Electrical Systems 3-3-4
A comprehensive study of the theory and diagnosis of electrical systems. Topics include: basic electricity theory and systems, magnetism, induction, batteries, semiconductors, automotive wiring circuits, electrical circuit repair and diagnosis techniques and the fundamentals of electronics. Corequisite: AUTO111

AUTO121 Brake Systems 2-3-3
An extensive study of the construction, operation and diagnosis of modern brake systems. Topics include: the fundamentals of hydraulics, components and diagnosis: disc and drum brake operation and diagnosis, parking brake systems, power assist brakes, and disc and drum machining. Prerequisite: AUTO111 with a grade of "C-" or better.

AUTO122 Engine Theory, Diagnosis & Repair 2-3-3
A comprehensive study of the theory, diagnosis and overhaul of gasoline fueled internal combustion engines. This course provides a means to gaining knowledge and skills necessary to diagnosis and service today's complex engines and systems. The principles of four-stroke cycle engine operation, identification of engine systems and components, cylinder head and valve train diagnosis and service; engine noise diagnosis, basics of diesel operation and turbocharger/supercharger principles will be covered in this course. Prerequisite: AUTO111 with a grade of "C-" or better.

AUTO123 Electronics I 2-3-3
This course is a continuation of AUTO 113 and will expand the student's knowledge of electronic systems and electrical circuits. The course consists of an in-depth study of electronic control system input sensors, output devices and microprocessor control systems. Sensors and output device operation and oscilloscope analysis is also covered in this course. Prerequisite: AUTO113 with a grade of "C-" or better.

AUTO131 Climate Control Systems 2-3-3
A comprehensive course covering the theory and operation of air conditioning systems, air management and electronic climate control systems. Also included in this course are the service, maintenance and diagnosis of climate control systems. Prerequisite: AUTO113 with a grade of "C-" or better.

AUTO132 Electronics II 2-3-3
This course is a continuation of the freshman electrical, electronics, and mechanical courses. It will cover vehicle systems that have integrated electronic controls. The students will examine the theory of operation, diagnostic techniques and service procedures for these systems. Prerequisite: AUTO123 with a grade of "C-" or better.

AUTO133 Customer Satisfaction 1-0-1
Evaluates the student's internship progress and experiences and discusses issues related to becoming a successful technician or manager. Focus will be on issues of ethics, professionalism, quality and customer satisfaction. Guest speakers, consumers and others may be invited to participate in open discussions of issues related to the automotive service industry. Prerequisite: AUTO111 with a grade of "C-" or better.

AUTO211 Manual Transmissions & Transaxles 2-3-3
Covers theory and operation of manual transmissions and transaxles, including drive axles, drive shafts, clutches. It also includes diagnostic procedures and techniques. Disassembly, overhaul procedures, repair and reassembly of transmission/transaxles, differentials and clutches will be performed. Prerequisite: AUTO111 with a grade of "C-" or better.

AUTO214 Powertrain & Emission Controls 2-3-3
This course provides an in-depth study of powertrain control systems and emission control systems with emphasis on operating strategies. This course focuses on the theory and operation of the systems and how they react to different operating conditions. This course lays the foundation for the driveability and performance diagnostic course that follows. Prerequisite: AUTO132 with a grade of "C-" or better.

AUTO215 Advanced Vehicle Systems 3-0-3
Introduces the students to new technology. This course focuses on the latest vehicle systems and technology that may not yet be in production. This course is designed to explore the future of technology in the automobile and to help prepare students for what is ahead. Prerequisite: AUTO132 with a grade of "C-" or better.

AUTO221 Automatic Transmission 2-3-3
Hydraulic & Mechanical Systems
Covers automatic transmission hydraulic and mechanical system operation, diagnosis and repair. Students participate in the completedisassembly, inspection and overhaul procedures of different types of automatic transmissions. Students will examine the principles of torque converter operation, hydraulics, power-flow, planetary gear sets and diagnosis. Prerequisite: AUTO211 with a grade of "C-" or better.

AUTO223 Driveability & Performance 2-3-3
This is a comprehensive course in vehicle performance diagnosis with a focus on identifying driveability concerns and diagnostic methods used in solving performance problems. Students will be exposed to a variety of actual driveability problems in which they will have the opportunity to learn diagnostic techniques. The goal is to learn to solve performance problems in a logical and complete manner and to identify the root cause. Prerequisite: AUTO214 with a grade of "C-" or better.

AUTO224 Automatic Transmission Electronics 2-3-3
This course provides a thorough study into automatic transmission electronic control system operation, diagnosis and repair. Students will participate in the inspection and diagnosis of electronic controls of automatic transmissions. An in-depth analysis of electronic transmission control system strategies and diagnosis will also be part of the course. Prerequisites: AUTO132, AUTO211.

BIOL041 Developmental Biology 3-0-3
This course will cover the main points of biology at the high school level. It is meant to replace or supplement a student's background in biology if that student either never passed high school biology, or took the course so long ago as to be unprepared for further study of the life sciences. The course will give an overview of cell biology, the biology of organisms, and the biology of populations. These credits do not count toward graduation requirements.

BIOL090 Chemistry Foundations 1-0-1
for Anatomy & Physiology
An introduction to chemistry and biochemistry that is meant to prepare students for Anatomy and Physiology specifically, and other health science courses that they may subsequently take at NHCTC. The emphasis will be on general vocabulary and concepts in chemistry that are appropriate to the health sciences; specific topics may be covered in more depth as appropriate for preparation for Anatomy & Physiology I. Students should be ready for a rigorous, fast-paced course. This course does not fulfill the chemistry requirement for Nursing.

BIOL101 General Concepts in Biology 3-3-4
This is a one semester college-level biology course that deals with important concepts surrounding biology. It will cover some basic chemistry, the cell structures and their functions, how cells divide, cellular respiration, photosynthesis, DNA and RNA, and some basic genetics. This study is based on the ongoing evolution of species. Prerequisite: High school biology or equivalent or permission of instructor and placement into ENGL110.

BIOL106 Human Body 3-0-3
A one-semester course that introduces the structure and function of the human body. It includes the anatomy and physiology of each of the organ systems of the human body and practical discussions of disease and health. Prerequisite: Grade of C or better required for Medical Assistant students to advance to MEDA125.

BIOL107 Human Body Lab 0-2-1
A series of laboratory experiences designed to enhance and reinforce the concepts of Human Biology. (Medical Assistant students must take BIOL106 concurrently.) Prerequisite: Grade of C or better required for Medical Assistant students to advance to MEDA125.

BIOL108 Biology I 3-3-4
This is an intense college-level course which covers the principles of biology, including the structure of cells and how they function as well as how they reproduce themselves. Also included is: cellular respiration, photosynthesis, biochemistry of cells, physiological processes, genetics and heredity. Prerequisite: Successful completion of high school biology and chemistry or BIOL041 and CHEM043 or permission of the instructor.

BIOL109 Biology II 3-3-4
This course covers the biology of organisms, including the four areas of kingdoms, behavior, evolution and ecology. An understanding of high school level biology and chemistry is assumed.

BIOL110 Human Anatomy and Physiology I 3-3-4
This course is designed to give a student of any health or medical science a thorough background in anatomy and physiology. Current, in-depth information is presented on the structure and function of human cells, tissues, and organ systems including the skin, skeletal, muscular, nervous and sensory systems. Laboratory work augments lecture topics and includes exercises in microscopy, the study of fresh and preserved specimens, and exercises in human physiology. Prerequisites: high school-level chemistry and high school biology, or BIOL090, or permission of the instructor.

BIOL112 Basic Pathophysiology Theory 3-0-3
An introductory science course for non-majors which provides students with an understanding of disease processes. Common disorders of major body systems are discussed relative to the mechanisms by which they develop and their effects on homeostasis. A brief overview of the anatomy and physiology relevant to each body system will be included when each system is explored. Prerequisite: BIOL106.

BIOL113 Basic Pathophysiology Lab 0-2-1
A series of laboratory experiences designed to enhance and reinforce the concepts of Introduction to Human Disease. The course will cover normal and abnormal anatomy and microanatomy, diagnostic tools, and study of disease organisms. Corequisite: BIOL112.

BIOL115 Contemporary Issues in Ecology 3-0-3
This is a one semester course that will cover basic ecological concepts and explore contemporary environmental- and resource-management issues. The study of these issues will be based on the knowledge learned in class, as well as the natural and physical sciences. Included in these issues are global warming and loss of species diversity. The course will culminate in a research paper on a contemporary issue. Prerequisite: ENGL110, high school level biology recommended.

BIOL120 Human Anatomy and Physiology II 3-3-4
A continuation of Human Anatomy and Physiology I. This course includes current, in-depth information of the structure and function of the endocrine, digestive, respiratory, blood, cardiovascular, lymphatic, urinary, and reproductive systems. Laboratory work augments lecture topics and includes exercises in microscopy, the study of fresh and preserved specimens, and physiological measurements on the human body. Prerequisite: BIOL110.

BIOL140 Nutrition for Fitness and Health 3-0-3
A study of nutrients and how the body handles them throughout the life cycle. Optimal lifestyle behaviors which pertain to nutritional health and wellness will be reviewed. Topics will include, but not be limited to: the metabolism of macro and micronutrients; the physiological benefits of an optimal diet with exercise; behavioral issues related to eating, energy balance and weight control; disease prevention strategies related to diet; and environmental issues pertaining to food and food safety.

BIOL150 Nutrition 3-0-3
A study of normal and medical nutritional therapy, including the digestion, absorption, transport and metabolism of the macro and micronutrients throughout the life cycle. Nutritional assessment and care plan processes for various medical nutritional therapies, including cardiac, diabetes, stress and wasting disorders, gastrointestinal, enteral and parenteral feeding routes, energy balance, and weight management will be studied.

BIOL210 Microbiology: Principles and Practices 3-3-4
This course provides an introduction to the principles and practices of medical microbiology. Topics covered include: the nature and behavior of microorganisms; principles of growth and reproduction of microorganisms; identification of microorganisms using staining, pure culture, biochemical and antigenic techniques; and the epidemiology, clinical features, laboratory diagnosis and appropriate control measures for microbial diseases caused by viruses, bacteria, fungi, protozoa and helminthes. Students are required to have protective eyewear (available in the bookstore) and lab coats for the first lab session.

BLDG100 Interior Drafting 1-2-2
This course develops basic drawing skills necessary for a student to complete satisfactory drawings in the residential interior design field. Drawings in this course deal with basic drafting concepts such as orthographic projection, isometrics, and obliques. Drawings of floor plans and elevations of a house from the foundation to the ridge are also completed.

BLDG111 Architectural Drafting I 1-3-2
This course develops basic drawing skills necessary for a student to complete satisfactory drawings in the light residential construction field. Drawings in this course deal with basic drafting concepts such as orthographic projection, isometrics, and obliques. Drawings of details and sections of a house from the sill to the ridge are also completed. All drawings and details will be related to the Building Construction Technology Program.

BLDG112 Methods of Construction I Theory 4-0-4
The student learns to identify the various components and materials necessary to complete the frame of a light residential dwelling, including deck, walls, partitions, ceilings, rafters, and sheathing.

BLDG113 Methods of Construction I Lab 0-6-2
The student learns to identify and apply the various components and materials necessary to complete the frame of a light residential dwelling, including deck, walls, partitions, ceilings, rafters, and sheathing.

BLDG121 Architectural Drafting II 1-3-2
This course gives the student an opportunity to specialize in drawings related to complete wall elevation sections, cornice details, rough stairs, and component parts of a complete set of working drawings. The student will also start plans for a complete set of working

drawings to an energy, space and cost-efficient home common to quality New England construction. Completed preliminaries of a foundation plan, floor plan, door and window schedule, front and side elevation drawings, and various sketches will be required for a house design. All drawings and details will be related to the Building Construction Technology Program. Prerequisite: BLDG111.

BLDG122 Methods of Construction II Theory 4-0-4
The student learns to identify the various components and materials necessary for the completion of the exterior of a wood frame dwelling, including trim roofing, sidewalling, doors, windows, stairs, and ventilating components. The proper installation of exterior finishing materials and design of stairs in accordance with industry standards are studied. Prerequisites: BLDG112 and BLDG113, or permission of the instructor.

BLDG123 Methods of Construction II Lab 0-6-2
The student learns to identify and apply the various components and materials necessary for the completion of a light residential dwelling including trim roofing, sidewalling, doors, windows, stairs, and ventilating components. The proper installation of the materials in accordance with industry standards are studied and practiced. Prerequisites: BLDG112 and BLDG113, or permission of the instructor.

BLDG212 Methods of Construction III Theory 3-0-3
The student gains practical experience in identifying the various materials and components used to finish the interior walls and ceilings of a wood frame structure. The proper installation of door frames, hanging doors and installation of locksets, installation of door and window trim, and the application of baseboard and ceiling moldings are studied in accordance with acceptable industry standards. Prerequisites: BLDG122 and BLDG123, or permission of the instructor.

BLDG213 Methods of Construction III Lab 0-6-2
An introduction to the practice of the proper installation of materials necessary to complete the interior of a wood frame dwelling. Included are ceiling and wall finishes, door frames, hanging doors, locksets, door and window trim, ceiling and baseboard molding, installed in accordance with industry standards. Prerequisites: BLDG122 and BLDG123, or permission of the instructor.

BLDG214 Energy-Efficient Building Construction 3-0-3
The student is introduced to the principles, practices, and materials in energy-efficient building construction. Heat transport, insulation, air movement and indoor air quality, vapor diffusion and air barriers, moisture and condensation are studied. Sound transmission and absorption, solar energy, lighting, space and domestic hot water heating and other topics are discussed. A heat audit is performed, and the state energy code is examined.

BLDG222 Methods of Construction IV Theory 3-0-3
The student studies soil analysis, site and utility investigation, foundations common to New England, and building codes. Students develop hands on skills with a leveling gun and transit. Discussion of brick, block and stone are part of this course. An introduction to individual septic system design is discussed. Prerequisite: BLDG212 or permission of the instructor.

BLDG223 Methods of Construction V Theory 3-0-3
A course on the identification and installation of flooring materials, stair parts, and cabinetry. The proper installation of stair treads, risers, skirt boards, newel posts, handrails and balusters are studied. The students are also introduced to the design, layout, construction and installation of kitchen cabinets. Prerequisites: BLDG212 and BLDG213, or permission of the instructor.

BLDG224 Methods of Construction V Lab 0-6-2
This lab continues Methods II Lab with interior finish: jamb extensions, baseboard, window and door casings and other finish work, kitchen cabinet layout and installation, construction and installation of bathroom vanity, installation of countertops, finish stair mock-ups, and other laboratory projects. Prerequisites: BLDG212 and BLDG213, or permission of the instructor.

BLDG225 Blueprint Reading/Estimating 3-3-4
The student learns to comprehend and use blueprints typically used in light residential construction. Two and three-dimensional drawings are analyzed. Common methods of estimating labor and materials are studied and practiced.

BLDG230 Architectural CAD I 2-2-3
This course is an introduction to the basic concepts and practices of producing drawings by Computer Aided Drafting using IBM compatible personal computers and AUTOCAD software. Anticipated benefits of CAD capability would include increased drawing productivity, improved drawing accuracy, simplification of drawing changes and modifications, and enhanced design capabilities. All drawings and details will be related to the Building Construction Technology Program. Prerequisites: BLDG111 and BLDG121.

BLDG 235 Architectural CAD II 2-2-3
This course is a continuation of the introduction to basic concepts and practices of producing drawings by computer aided drafting using IBM-compatible personal computers and AUTOCAD software. Anticipated benefits of CAD include increased drawing productivity, improved drawing accuracy, simplification of drawing changes and modifications, and enhanced design capabilities. The student will also work on plans for a complete set of working drawings to an energy, space and cost efficient home common to quality New England construction. Completed preliminaries of a foundation plan, floor plan, door and window schedule, front and side elevation drawings, cross sections, and various sketches will be required for a house design. All drawings and details will be related to the Building Construction Technology Program.
Prerequisite: BLDG230.

BLDG240 Introduction to Precision Estimating 1-2-2
The student gains both theoretical and practical knowledge in using Precision Estimating for the Windows operating system to estimate large and small residential and commercial construction jobs, including carpentry, sitework, structural steel, and mechanical systems, as practiced in accordance with acceptable industry standards.

BLM101 Grounds Maintenance 3-0-3
The practical principles of lawn and garden care, and the maintenance of lawns, gardens, industrial, municipal and estate grounds, is a complex operation calling for skills and efficiency if the job is to be done properly. Information is included on the subjects of annual and perennial plants, greenhouses, hedges, vines, ground covers, shrubs and trees, insect and rodent control, brush and weed control, roads, walks and pavements, drainage for roads, traffic areas and grounds, and general maintenance equipment.

BLM102 Building Maintenance Management 3-0-3
A general overview of building maintenance functions as they relate to heating, A/C and refrigeration, electrical, and mechanical as well as plumbing systems. This course also includes discussion of the establishment of preventive maintenance programs, job safety, scheduling, priority assessments and the establishment of in-service training programs.

BLM103 Commercial Oil/Gas Burners 3-0-3
Introduction to high and low pressure commercial oil burners, as well as the various types of commercial gas burners and their control systems. Special emphasis will be placed on the troubleshooting, maintenance and repair of the various types of gas burners found in today's commercial and industrial applications.

BLM104 Plumbing 3-0-3
This course will familiarize the student with the basics of a plumbing system, its care and minor repair. The student will learn about supply piping (hot and cold), drainage waste and venting, hot water heaters and plumbing fixtures. It will also cover students' individual problem

areas. No prior experience is necessary. Introduction to the principles of water supply, drainage, waste and vent piping. The maintenance and repair of these systems in residential as well as commercial installations is covered.

BLM105 Electrical Wiring/Basic Theory 3-0-3
This course will focus on basic electrical theory, wiring, tools, circuits, and safety.

BLM106 Masonry and Brick Laying 1-2-2
Introduces the use of structural clay products, concrete, cement and masonry in the construction of light residential buildings.

BLM110 Energy Management Techniques 3-0-3
This course introduces energy management principles and practices for building maintenance personnel. Energy use, maintenance, and improvement will be discussed including the building envelope lighting system and mechanical equipment. Other topics will be energy audits, life cycle costs, and building systems or schedules modification to enhance energy conservation.

BLM111 Electrical Wiring/Basic Lab 0-3-1
This course is a concurrent laboratory section for Electrical Wiring/ Basic Theory. The intent of the course is to reinforce, through practical hands-on application, the topics learned in BLM105. Corequisite: BLM105.

BUS110 Introduction to Business 3-0-3
This is an introductory course designed to provide students with a basic understanding of the structures and operations of business, and an awareness of social and ethical responsibility as it relates to the environment, consumers, employees, and investors. An appreciation of the global economy will also be explored.

BUS114 Management 3-0-3
The principles and techniques underlying the successful organization and management of business activities will be covered in this course. Traditional analysis of management principles with the behavioral approach to case studies will be combined. The study includes the management functions of planning, organization, leadership, staffing control, and the decision-making process.

BUS116 Organizational Behavior 3-0-3
This course develops basic understanding of organizational behavior. The human relations approach is stressed. It includes management philosophy; the organizational climate; motivation, leadership and management; supervision; communication, group participation and other forces in the work environment. Students learn techniques for becoming more effective managers, subordinates, peers or people.

BUS124 Small Business Management 3-0-3
This course is an introduction to the concepts and application of small business management. Content includes contracts, leases, legal aspects of partnerships and corporations, risks, payrolls, inventories, record keeping, federal tax law and business law.

BUS155 Retailing Management 3-0-3
This course studies the principles of retailing with emphasis on the development of retail institutions, merchandising, pricing, and contemporary problems of retailers in today's business environment. Prerequisite or corequisite: MKTG125.

BUS200 Teambuilding 3-0-3
This course will introduce and expand upon the basic principles and concepts of team building and self-directed work teams as they pertain to the workplace environment. Through the use of lecture and workshop-type group exercises, the key concepts of how teamwork can influence and benefit the workplace will be explored.

BUS210 Organizational Communications 3-0-3
Effective communication is the lifeblood of an organization; it is also the foundation of a successful business career. The potential manager must master the methods and techniques necessary to use facts and inferences, understand communication strategies, create logical presentations, and develop critical skills in listening, speaking, writing, and an understanding of nonverbal, visual, and mass communication.

BUS211 Business Law 3-0-3
Based on student input at the start of the course, the course will encompass some of the common topics in criminal and civil law. Likely areas to be taught and discussed include civil and criminal justice systems, contracts, consumer protection, real and personal property, insurance, employment, and wills.

BUS214 Entrepreneurship 3-0-3
Focuses on all aspects of starting a business: selecting promising ideas, initiating new ventures, and obtaining initial financing. Concentrates on how ventures are begun, how venture ideas and other key ingredients for start-ups are derived, and how to evaluate new venture proposals. Explores business plan development, legal and tax considerations. Prerequisites: BUS 124 and MKTG125.

BUS220 Operations Management 3-0-3
Focuses on the relationship of the production and operations functions of delivering products or services to the achievement of an organization's strategic plan and linking the organization to its customers. Students integrate forecasting, materials management, planning, scheduling, process, operations control skills and techniques with approaches and tools such as Total Quality, Statistical Process Control, Continuous Improvement, Demand Flow and Just-In-Time production systems.

BUS221 Business Finance 3-0-3
This course is designed to survey the corporate finance discipline, to examine the financial management of corporations, to develop skills necessary for financial decision-making, financial forecasting, ratio evaluation and to acquaint students with money, capital markets and institutions. Prerequisites: ACCT113 and ACCT123.

BUS224 Human Resource Management 3-0-3
This course is designed to provide fundamental presentation of the dynamics of human resource management. Emphasis is placed on job design and development, employment training, benefits administration, compensation and employee relations.

BUS231 Self Assessment 1-0-1
A seminar meeting one period per week will discuss issues related to successful employment. Discussion topics will include job search, resume, cover letter, interviewing. This seminar will be taken in the final semester.

BUS282 Capstone Research 3-0-3
This course will be taught from the viewpoint of the person who conducts market research with a concentration on techniques and processes required to conduct quality research studies. Topics include questionnaire development, sampling techniques, data collection methods, and survey errors. Application of concepts through primary data coupled with secondary data through a market research project. This course must be taken in the student's final semester. Prerequisite: MKTG125.

BUS291 Internship 0-9-3
A course designed to provide comprehensive experience in application of knowledge learned in previous coursework. Students will select a site and will work as a supervised intern. This course will be among the last in a student's program.

CDI111 Electronic Publishing I 2-3-3
Students will produce pre-designed and original publications using Introductory QuarkXPress and PhotoShop on an IBM-PC clone. The focus is on the principles, skills and equipment used in the electronic publishing process. Knowledge of basic layout and paste-up methods is necessary along with basic computer application skills.

CDI112 Print Design Basics 2-3-3
This course is an introduction to the basics of printed reproduction and demonstrates the historic, modern and future implications of printed communications. The student will learn the language and tools of the industry by solving weekly projects that at the beginning of the semester will teach them the use of hand tools. From there they will move into using computer equipment in a Windows platform to create camera-ready layouts that match the techniques, principles, and standards required for quality print production by the graphic artist. Co/Prerequisite: CDI111.

CDI114 Two Dimensional Design for Graphic Arts 2-3-3
This course covers the basic principles and elements of design. Design problems are solved using techniques that acquaint the student with mechanical tools and media used in the commercial design field.

CDI121 Electronic Publishing II 2-3-3
This course gives students training in hardware and software components of advanced electronic publishing technology, and the skills needed to produce attractive and effective printed materials. Students will learn to produce page layouts using advanced QuarkXPress and PhotoShop. Prerequisite: CDI111.

CDI122 Color Theory for Graphic Arts 2-3-3
Color theory for graphic arts and design concepts are explored in this course. A variety of projects will be solved, demonstrating how color and design can be used as effective tools for strengthening graphic communication in commercial design. This course cannot be substituted for ID112, Color for Interior Design.

CDI124 Typography 2-3-3
This course is an introduction to typefaces from an aesthetic and communicative perspective. The history and background of typography is explored to give the student an understanding of the language and form of typefaces and letterforms. The student will have weekly assignments that will teach them about modern typography and about the ways to recognize and solve design problems using type. Prerequisites: CDI111, CDI114.

CDI211 Illustration I 2-3-3
This course will provide an introduction to illustration with emphasis on basic ideas, techniques, media, and skill development. Prerequisite: ARTS123. Corequisite: CDI213.

CDI213 Commercial Design I 2-3-3
An introductory level process of researching, designing, executing, promoting and presenting for the advertising field is assessed in this course. Marketing trends, products and guidelines of the advertising and graphic arts fields are dissected and evaluated. Individual and group projects are assigned to mobilize the cognitive, creative and collaborative skills of the student. Students will put together electronic layouts that demonstrate a beginner skill in commercial design production. Prerequisites: CDI111, CDI112, CDI 114, CDI121, CDI122, ARTS123, CDI124. Corequisite: CDI211.

CDI215 Digital Publishing Methods 2-3-3
Students will learn digital printing methods and theories. File preparation and management for print production and Raster Image Processing (RIP) will be explored and practiced. Resolution, graphic file formats, workflow methods, and color calibration of a monitor and scanner will be covered. Students will have weekly projects for hands-on training in making files production-ready. Prerequisites: CDI111, CDI112, CDI121.

CDI221 Illustration II 2-3-3
This course is a continuation of CDI211, Illustration, with attention given to the role of the illustration as communicator. Problems assigned in editorial, book and advertising illustration. Students will receive advanced training in illustration techniques and mediums while creating their unique style. Prerequisites: ARTS123, CDI211.

CDI222 Computer Illustration 2-3-3
Students will produce pre-designed and original computer illustrations on a Windows-based PC. Students move from introductory drawing techniques to advanced using Adobe Illustrator. They will learn proper color management and file preparations to ensure that the illustration printed from the screen version is the desired result and usable in electronic design. Prerequisite: CDI114.

CDI225 Commercial Design II 2-3-3
An advanced creative process involved in researching, designing, executing, promoting and presenting for the advertising field is assessed in this course. Marketing trends, products and guidelines of the advertising and graphic arts fields are dissected and evaluated. Individual and group projects are assigned to mobilize the cognitive, creative and collaborative skills of the student. Students will put together electronic layouts that demonstrate an advanced skill in graphic design production. Completion of a self-promotional package is required. Prerequisites: all freshman courses and CDI211, CDI213, CDI215.

CDI 226 Portfolio Preparation 2-3-3
Students will produce a professionally mounted portfolio of at least 12 pieces, a press release, a mini portfolio and an electronically produced portfolio on CD. Students must participate in two portfolio reviews; one attended, one unattended, and also participate in a juried exhibition. Students will identify and pursue their career and/or education goals. They will practice interviewing with a portfolio. Co/Prerequisites: all CDI courses.

CDI227 Internship Seminar 1-0-1
The CDI Internship Seminar is an opportunity for the student to prepare to work at a graphic design, commercial art, printing, publishing or advertising company. This course is designed to allow the student to further the study of commercial art through research, interviews, and hands-on projects pertaining to the field of graphic design. Students will prepare for interviews and practice interviewing techniques. Prerequisites: all freshman courses.

CDI228 Internship 0-8-2
The CDI Internship is an opportunity for the student to experience on-the-job training at a business or professional job site. The student must complete the first three semesters of the CDI Program and be prepared to work at a graphic design, commercial art, printing, publishing or advertising company. This course is designed to allow the student to further the study of commercial art through in-field internship or self-directed projects with a CDI faculty member. Students will be required to attend a business luncheon seminar. Prerequisites: all freshman courses and CDI211, CDI213, CDI215, CDI227.

CE110 National Electric Code Update Non-credit
This course will cover in detail the 1999 changes to the National Electrical Code. It is presented in four sessions of 3 ¾ hours each. The course is designed to meet the requirements of the State Electricians Board for re-licensing of electricians.

CE115 Journeyman Electrician Exam Preparation Non-credit
This course is based on the National Electrical Code (NEC) and is designed for use by electricians preparing to take the Journeyman Electrician's License Examination and for upgrading. Material is presented in sequential order building upon prior material, and concludes with two sample examinations. Examples and guided exercises show how to solve electrical problems. The crux of classroom instruction consists of 400 General and Code-Related Questions designed to give the student practice in applying NEC to substantiate answers.

CHEM043 Developmental Chemistry 3-0-3
This high school-level course in chemistry examines the structure of matter and the nature of chemical reactions. Particular attention will be given to the types of reactions that apply to the health field. These credits do not count toward graduation requirements.

CIS097 Computers Fundamentals 0-2-1
This course is designed for students with little or no computer skills or for those who are interested in refreshing their computer knowledge. Students will identify the major hardware and software components of a computer, gain proficiency in the Windows operating system environment and learn how to manage, save, copy and delete file and folders. Students will also gain knowledge in current trends and topics in computer technology and will learn the terms and skills needed in today's computer literate society. This course may not be applied to meet certificate or degree requirements.

CIS110 Introduction to Computers 2-2-3
As a foundation course to gain computer literacy, students will use a fully integrated, hands-on approach to understand the critical components of computer technology. Students will examine personal computer hardware and software components, gain proficiency in the Windows operating system environment and learn the fundamental elements of Office Application Software including word processing, spreadsheets, presentation software, and database applications. Students will also explore various facets of the Internet including using the Internet for research, working with on-line learning tools, evaluating electronic information, safeguarding data, proper use of email and other current web technologies.

CIS111 Computer Technologies 2-2-3
The purpose of this course is to provide students with the fundamental background and understanding of various critical components of computer technology. A required course for all computer majors, this foundation course provides students with a firm foundation in computer technology including: hardware components, software applications, processors, memory management, secondary storage, file management, operating systems, networking essentials, ethics, and emerging technologies. Students will also explore various ethical issues surrounding the use of digital information, as well as the impact of technology on business and society. Prerequisite: CIS110 or permission of instructor.

CIS112 Programming Logic 3-0-3
This course will emphasize systems thinking as an approach to solving computer problems and understanding formal logic. Programming theory and logic will be presented with hands-on practice in model environments, while students are provided with essential problem-solving methods, techniques and disciplines. Control flow, data manipulation and planning methods will be emphasized. Students will develop confidence in applying programming solutions, will be exposed to pertinent terminology, and will learn the effective use of reference materials.

CIS113 Database Design and Management 2-2-3
This course is an introduction to database analysis, planning, designing, and implementation with emphasis on the relational model. Students will study the theory behind relational databases, relational database nomenclature, and relational concepts. The course will include sections studying Structured Query Language (SQL) and optimizing databases through normalization. Students will apply their knowledge with hands-on exercises designed to teach the intricacies of database design methodology. Prerequisite: CIS110.

CIS116 Introduction to Computer Networking 2-2-3
This course introduces students to the fundamentals of computer connectivity. Students will compare peer-to-peer versus client-server configurations, Windows, Unix and Mac Network Operating System Environments, local and wide-area networks, in addition to relevant network communication protocols. Prerequisite: CIS111.

CIS118 Introduction to Visual Basic 2-2-3
This course will provide the students with an understanding of structured, procedural, and event-driven programming. The students will develop techniques for problem solving through the application of programming methods and will gain experience in the nuts-and-bolts of program design as they complete lab work and assignments. Students will learn to use the Visual Basic language and programming environment. Prerequisite: CIS112.

CIS123 Microsoft Access 2-2-3
In this course, students are exposed to beginning, intermediate and advanced concepts of relational database design and management using Microsoft Access. Topics covered will include creating and maintaining a database, querying a database, creating forms and reports, and importing and exporting data. This course is a hands-on database design, implementation, and administration class, and students will develop multiple database projects, which assures that the material is understood theoretically and mastered practically. Prerequisite: CIS113

CIS124 Web Programming I 2-2-3
Students will gain knowledge of the web site development process and learn to develop web pages using XHTML standards. Through the use of different text editors and validation programs, students will study in detail XHTML syntax and will develop well-formed and valid web pages. Students will also incorporate text, graphical, and form components into web pages and will use text formatting, tables and CSS for page layout and site design. Prerequisite: CIS110.

CIS134 Web Style and Design 2-2-3
Students will learn the basic layout and imaging skills for attractive, informative, and entertaining Web pages. Course topics include information architecture, site design, layout, type, color, scanning, image manipulation and formats, copyrights, element integration, and compatibility issues with multiple browsers. Current software specific to Web publishing will be utilized. Prerequisites: CIS124.

CIS135 Introduction to PhotoShop 2-2-3
Adobe PhotoShop brings the art and science of photo manipulation to the Web and other computer applications. An overview of the PhotoShop environment, color processes and channels, image modes, scanning, compositing, adjustment layers, masks, type manipulation, filters, actions, file formats, and web/multimedia considerations are among the many topics covered in this course. Prerequisite: CIS110.

CIS141 Desktop Publishing 2-2-3
This hands-on course introduces students to the basic hardware and software components of desktop publishing technology as well as the skills needed to produce attractive and effective printed materials. Students will learn to produce page layouts while experimenting with writing and graphic design. Prerequisite: CIS110.

CIS145 Introduction to Multimedia 2-2-3
This project-based course introduces students to multimedia concepts through a production environment. Students will learn how to create and manipulate objects, develop screen designs and begin to build computer applications to incorporate graphics, animation, audio and video. Students will be introduced to current industry standards using Macromedia Director. Prerequisite: CIS110.

CIS146 Linux I 2-2-3
The purpose of this course is to provide students with the fundamental skills needed to work in a Linux environment. A recent version of the popular public domain operating system, Linux will be used as a vehicle for course delivery. Topics to be covered include the file system, file management, text editors, running and creating shell scripts, Xwindows, and basic system administration. Installing the Linux operating system and networking issues will also be discussed. Prerequisite: CIS112.

CIS148 Introduction to Java Programming 2-2-3
The purpose of this course is to provide a solid foundation in Java programming language. Program planning, object oriented design, and Java language syntax are emphasized. This course will prepare students for advanced study of Java as well as introduce students in other fields of computer study to general object programming. If students do not have previous programming experience, CIS112 is required as a prerequisite.

CIS149 Linux Applications 2-2-3
In this course, students will explore the various common business applications available to run on Linux. This includes Star Office, Open Office, Evolution, Mozilla, Gimp, and many other useful, open-source programs that are generally available free from sources on the internet.

CIS158 Introduction to C++ 2-2-3
This course introduces students to the fundamentals of structured programming and to the procedural aspects of the C++ programming language. Students will create programs to demonstrate the topics of program control, functions, arrays, and pointers. Microsoft's Visual C++ will be used as the primary development tool; however, other environments may also be used. Emphasis will be placed on the creation of platform-independent applications to allow students to become familiar with the core features of the C++ language. If students do not have previous programming experience, CIS112 is required as a prerequisite.

CIS184 Web Page Development Using Authoring Tools 2-2-3
At the completion of this course, the student will be familiar with several web authoring applications, also known as WSYWIG editors, and be able to create a website using a WSYWIG editor. The student will be able to create a storyboard or page mock-up using one of the design templates available and understand the role of the storyboard in the planning process. The student will use some of the more advanced tools found in WSYWIG editors such as CSS, animation, creating a sophisticated form, a site map, creating and changing a template, and the use of JavaScript. Prerequisite: CIS134.

CIS205 Advanced Photoshop 2-2-3
This course will expand student's knowledge of Photoshop through the exploration of more advanced tools and techniques for both print and the Web. In-depth work on photo editing, masks, gradient masks and channels, color correction, image blending, digital images, clipping paths, filters and plug-ins, and the creation of 3-dimensional effects through the digital manipulation of lighting and shadow, will be covered. Students will be encouraged to take their own creative ideas from sketchpad to completion. Many professional tips and tricks from publications written by industry experts will be covered. Prerequisite: CIS135.

CIS207 Windows Server I 2-2-3
This course will prepare the student to take the current version of MCSE Exam 70-210 Installing, Configuring, and Administering Microsoft Windows Server. The student will install Windows Server Professional under several scenarios to include stand-alone and Windows Server Remote Installation Services (RIS). Topics to be covered include methods to upgrade from previous versions of Windows, installation troubleshooting, implementing and conducting administration of resource responsibilities, troubleshooting hardware devices, installing drivers and configuring user accounts, profiles and policies. Prerequisite: CIS116.

CIS208 Data Structures in C++ 2-2-3
This course uses the C++ programming language to examine basic abstract data types and their representations, fundamental algorithms, and algorithm analysis. Specific topics include linked lists, stacks, queues, trees, searching and sorting, graphs, and hashing. The abstract data types are presented in the spirit of OOP (object-oriented programming). Students will therefore be given a basic understanding of the object-oriented C++ features, such as the class construct, inheritance, overloading, and class templates. Prerequisite: CIS158 (may be taken as a corequisite with CIS238).

CIS211 Advanced Software 2-2-3
This course introduces students to a variety of software application programs such as PowerPoint, Corel Draw, Morphing, Paint Shop Pro. Students will study bitmapped and vector images, scanning, data storage and compression, 3D design, and learn to manipulate large files to include sound waves, animation, graphics, and text. Prerequisite: CIS110.

CIS216 Web Server Administration 2-2-3
Discover what goes on behind the scenes in order to access your favorite web pages. Learn how to set up and maintain the hardware and software needed for both Internet and Intranet web sites. Emphasis will be placed on setting up a UNIX/Linux system with Apache web server; however, other platforms will be discussed throughout the course. Prerequisites: CIS146, CIS224.

CIS217 Windows Server II 2-2-3
Building upon the skills gained in CIS207, this course will prepare students to take MCSE Exam 70-215 Installing, Configuring and Administering Microsoft Windows Server. Windows Server is designed to work in medium to large-scale environments serving 200-26,000+ users and in multiple physical locations. The typical services provided by Windows Server will be in the area of database server, messaging, file server, print server, communications server, desktop management, proxy server or firewall and web hosting. Students will learn to configure Windows Server hardware devices and drivers, manage resource access and storage use, optimize system performance, and monitor and troubleshoot Windows security issues. Prerequisite: CIS207.

CIS218 Advanced Visual Basic 2-2-3
This course will expand the students' understanding of structured, procedural and event-driven programming. The students will learn advanced programming methods, and will gain further experience in the nuts-and-bolts of program design as they complete lab work and assignments. Prerequisite: CIS118.

CIS221 Advanced Word Processing 2-2-3
This course encompasses the intermediate and advanced features, commands, and functions of the most current version of Microsoft Word to achieve mastery-skills level. Students will learn to prepare, enhance, and customize documents from basic communication formats to more complicated formats. Advanced tools and techniques will be introduced such as graphics, tables, charts, drawings, multimedia clips as well as cut and paste, macros, formatting and design, plus mail merge, columns, wizards and OLE files. Prerequisite: CIS110.

CIS223 Advanced SQL 2-2-3
In this course, students will learn how to use Structured Query Language to manipulate and retrieve data from relational databases. Students will use SQL to modify database structure, add user permission to databases or tables, query the database for information, and update the contents of a database. Stress will be placed on working with large database management systems like SQL Server. Prerequisite: CIS113.

CIS224 Web Programming II 2-2-3
Building upon the web development skills taught in CIS124, this course will enable students to create dynamically built websites using JavaScript and other client-side scripting languages. Students will also gain advanced XHTML and CSS skills, and will gain familiarity with programming concepts and terminology common to many web scripting languages. Prerequisites: CIS112 and CIS124.

CIS231 Advanced Worksheets 2-2-3
This application course employs the basic accounting concepts and principles in a computerized environment. Students will apply problem-solving and critical-thinking skills while mastering advanced spreadsheet application techniques using the latest version of Microsoft Excel. Students will learn graphic layout, format design, and presentation skills to enhance formal spreadsheet reports and projects. Prerequisite: CIS110.

CIS233 Oracle 1 2-2-3
Students will gain an understanding of the internal structures and organization of an Oracle database. Students will create Oracle databases, tablespaces, user accounts, views, indexes, and other objects necessary to support an application. The course will present a structured approach to the monitoring and managing of the most recent version of the Oracle database software. Prerequisite: CIS113.

CIS238 Object-Oriented Design 2-2-3
The focus of this course is on object-oriented programming and design as a process. While C++ or Java may be used to illustrate OOP constructs, the computer language skills are presented only as needed to illustrate object-oriented software development practices. Problem analysis, formulation of an appropriate object-oriented design, and expression of that design in a common notation will be emphasized. Prerequisite: CIS148 or CIS158 or CIS218.

CIS243 Oracle II 2-2-3
Students will continue in their study of the concepts of how to successfully design, manage and administer a relational database using the toolsets built into the Oracle RDBMS. Backups, recovery, user rights, roles and other configuration and administration concepts and tools will be discussed. Prerequisite: CIS233.

CIS245 Multimedia Applications 2-2-3
This course expands on the fundamentals of multimedia technology acquired in CIS145, Introduction to Multimedia. The primary focus will be the development of Macromedia Director skills. Using aspects of Lingo including commands, functions, properties and operators and understanding the process of events and handlers, will allow students to integrate various multimedia elements into a final project. Prerequisite: CIS145.

CIS246 Linux II 2-2-3
Students will learn to use the Linux operating system to solve practical business problems in a hands-on environment. Building upon fundamentals previously acquired, students will develop skills to administer and monitor resources on a UNIX/Linux network. Prerequisite: CIS146.

CIS248 Advanced Java Programming 2-2-3
Extend knowledge of object-oriented programming through the use of the Java programming language. Develop applets for use in web pages as well as stand alone applications. Application design, planning, language syntax, and a variety of Java environments will be covered. Individual and group projects are emphasized throughout the course. Prerequisite: CIS148 required; CIS238 recommended.

CIS249 Linux Databases 2-2-3
In this course, students will establish a firm foundation in Linux database installation, design, construction and use. Students will install and use My SQL and Postgres SQL, two popular open source database programs, along with a variety of useful tools to work with these databases. Students will also write basic PHP/Perl code to link these databases to websites. Prerequisites: CIS113 and CIS146.

CIS253 Data Sharing 2-2-3
This course will provide the student with the skills necessary to share data across the Internet. Topics will include database queries, ASP, JSP and CGI scripting, as well as security and form design. Current trends will be examined and discussed. Prerequisites: CIS223, CIS224.

CIS254 Scripting Languages for the Web 2-2-3
Learn how to create intelligent sites by extending HTML with a variety of scripting languages for the web. Develop pages that can verify forms, open new windows, set cookies and create new HTML documents "on the fly." Emphasis will be placed on JavaScript, CGI programming with Perl, and server-side languages such as ASP, JSP and PHP. Prerequisite: CIS224.

CIS258 Object-Oriented Programming with C++ 2-2-3
This advanced programming course emphasizes the C++ implementation of object-oriented designs. It expands upon both the structured techniques introduced in the CIS158, CIS208,` and CIS238. While concentrating on the creation of C++ object systems, students will learn advanced language topics such as function overloading, default arguments, inheritance, virtual functions, and run-time type information. Prerequisite: CIS158, CIS238 (recommended).

CIS264 Macromedia Flash 2-2-3
Bring multimedia to the web site without sacrificing access speed. Bring a web site to life by implementing streaming audio and video as well as Flash animations. Investigate cutting edge applications to create and embed multimedia components. Students will work on both group and individual projects to investigate this exciting area of website development. Prerequisites: CIS115, CIS124.

CIS274 XML (eXtensible Markup Language) 2-2-3
This class will focus on XML and its applications in the business-to-business, web, multimedia and database industries with an emphasis on creating and using customized tag sets. Style sheet applications such as CSS and XSL will be explored as will the use of DTDs and Schemas. Prerequisite: CIS124.

CIS276 TCP/IP: Intro to Inter/Intra Networks 2-2-3
This course provides an in-depth study of TCP/IP, the technical foundation of today's Internet and the growing number of private intranets. Students will compare Microsoft and Novell's competing internet-intranet design models. Hands-on exercises will introduce students to routing services, TCP/IP management, diagnostics and troubleshooting techniques. Students will be required to design, install and test a TCP/IP internetwork environment. Other topics will include connectivity to the Internet, the role of DNS, IP addressing, various related protocols, and evolving technological trends. The course will help prepare students for the Microsoft Certified Program exam (#70-59) Internet-working with Microsoft TCP/IP on Windows NT 4.0. Corequisite: Operating Systems Level II courses or permission of the instructor.

CIS281 Internship 1-8-3
This capstone course allows a limited number of students to receive on-the-job experience at an off-site location related to their specific area of academic concentration. Students are required to work eight hours per week at positions that meet the criteria established by the Internship Manual. A seminar meeting once per week will review internship progress and discuss issues related to successful employment. Prerequisite: completion of course work for the first three semesters of the student's program of study and approval of the Department Chair and/or Program Advisor. The course has one hour of lecture and eight hours of work for three credits. Department Elective.

CIS291 Advanced Topics 2-2-3
The purpose of this experience is to provide qualified students the opportunity to pursue academic work outside the formal classroom setting. Independent Project is an ideal way for a student to specialize in a concentrated area within the Computer Technologies Department. In order to be eligible for this challenging opportunity, students must seek the approval of the Department Chair and work with a faculty advisor to set up a course of study. Students must submit an original project plan prior to acceptance.

EA111 Mathematical Theory and Introduction to Electrical Applications Non-credit
This is the first course in the apprentice electricity program. Its objective is to provide the apprentice electricity student with the necessary mathematics background to promote success in the electricity courses that make up the remainder of the program.

EA112 AC/DC Theory I Non-credit
This is the second course in the apprentice electricity program. The objective is to provide the student with an understanding of the basic fundamentals of electricity. Safety while working with electricity is stressed during the course. Prerequisite: successful completion of EA111 or permission of the instructor.

EA113 AC/DC Theory II Non-credit
This is the third course in the apprentice electricity program. The objective is to provide an understanding of the basic fundamentals of electricity with emphasis on alternating current. Safety while working with electricity is stressed during the course. Prerequisite: successful completion of EA112 or permission of the instructor.

EA120 Motor, Generator, and Transformer Theory Non-credit
This course will explore in detail the theory of operation of D.C. generators, D.C. and A.C. motors, alternators and transformers. Prerequisite: successful completion of EA113 or permission of the instructor.

EA122 Circuits and Residential Wiring Non-credit
This course will deal extensively with basic wiring diagrams, including complex switching circuits and residential blueprints. This course will also cover basic residential wiring methods and procedures. Safety on the residential job site will be emphasized.

EA123 Commercial and Industrial Wiring Non-credit
Students will learn basic wiring methods used in commercial and industrial applications. Wiring materials and their selection will be addressed for both situations. Blueprint reading for both industrial and commercial applications will be covered. Commercial and industrial safety procedures will be emphasized.

EA230 Motor, Generator & Transformer Applications Non-credit
This course will provide extensive coverage of basic motor, generator, and transformer connections. Safety procedures pertaining to these types of equipment will be stressed. Prerequisite: successful completion of EA111 or equivalent experience and instructor's permission.

EA232 Electric Motor and Transformer Controls Non-credit
This course will provide an in-depth presentation of controls for motors, generators and transformers. Prerequisite: successful completion of EA230 or permission of the instructor.

EA233 Electrical Control Systems Non-credit
This course provides exposure to advanced control systems. Fire alarm and security systems will be discussed. Advanced electronic components and systems will be introduced. Prerequisite: successful completion of EA232 or permission of the instructor.

EA241 National Electrical Code I Non-credit
This course will review the history of the code and will deal in-depth with Articles 90 through 280 of this document, which has been adopted by the New Hampshire Electricians' Licensing Board as its standard for electrical installations.

EA242 National Electrical Code II Non-credit
This is the second of three courses that deal with the National Electrical Code. It will cover Articles 300 through 480. Students should have prior understanding of the National Electrical Code from Article 90 through 280 before taking this course.

EA243 National Electrical Code III Non-credit
This is the third course dealing with the National Electrical Code. This course covers Article 500 through the tables in Chapter 9 and will also review some of the Code articles and revisions as necessary. Students should have a prior understanding of the National Electrical Code from Articles 90 through 480.

ECE100 Early Childhood Growth and Development 3-0-3
This course provides an in-depth study of normal growth and development from conception through age twelve with an emphasis on the needs and characteristics of each developmental level. Prominent theories of child psychology will also be introduced such as Piaget, Erikson, Maslow and behaviorism. Observation of children will be required as part of the course requirements.

ECE102 Practicum I: Observation and Recording of the Developing Child 1-3-2
Practicum I consists of a weekly seminar as well as a weekly internship within an assigned early childhood facility. The emphasis is on the study of the observational and recording techniques used by professionals in the field of Early Childhood Education. Students will have an opportunity to interact with children and to implement observation and recording techniques during the practicum experience.

ECE104 Foundations of Early Childhood Education 3-0-3
This course provides an overview of the history of childhood and childcare as well as a survey of the existing programs models. Various environments, materials and resources that meet developmental and educational needs of young children will be presented. Students will observe and evaluate programs based on principles of developmentally-appropriate practice as outlined by the National Association for the Education of Young Children.

ECE105 Art, Music, Drama and Dance in Childhood Education 3-0-3
This course focuses on nurturing creativity in young children through developmentally appropriate activities in the areas of art, music, dramatic play and movement. The various methods and materials used to stimulate a young child's creative impulses will be explored. Prerequisite: ECE100, ECE104, or permission of the instructor.

ECE106 Curriculum & Environment for Family Child Care 3-0-3
An in-depth look into the home environment and the process of early childhood planning for multi-age groupings of children through age eight. The role of the environment as well as various curriculum programs will be explored and evaluated. Emphasis is placed on developing positive growth in children through instructional and play materials, along with methods of evaluating the environment to ensure optimal opportunities for nurture and play. Participants will experience and broaden their own creativity and imagination through learning activities that can be applied to their home settings. Prerequisite: ECE100.

ECE107 Family Child Care Business Management 3-0-3
This course will review the fundamentals of sound business practices as they relate to the running of a successful Family Child Care business. Emphasis will be on designing of business plans, budgeting, insurances, effective business policies, contracts, pricing, marketing, customer relations, purchasing, financial, legal, and licensing regulations and reports, small business management and related record-keeping.

ECE110 Children's Literature and Language Arts 3-0-3
This course is designed to provide an overview of developmentally and interest-appropriate literature for young children. It will afford an opportunity to explore the various genres, recognize the value of literature to children's development, become familiar with exemplary authors and illustrators of children's literature, and learn ways to extend and enhance literature for young children. The components of a language-rich environment, language arts curriculum and the whole language approach to reading and writing will be explored. Prerequisites: ECE 110, ECE 104 or permission of instructor.

ECE112 Practicum II: Learning Environments for Young Children 2-3-3
The emphasis of this course is on the environment as the Early Childhood curriculum. The manner in which a "prepared environment" leads to play while stimulating the development and educational growth of children will be the focus of the course. Students will observe the effects of space, equipment, materials and relationships upon play, learning and discovery. Students will plan developmentally appropriate activities. Students will attend a weekly three-hour preschool practicum internship placement at an approved site.

ECE116 Child Health, Safety, and Nutrition 3-0-3
This course will provide a variety of health, nutrition and safety concepts. These concepts will enable the individual to implement preventive health and safety practices based on New Hampshire Childcare Regulations. Students will be able to develop menus for meals and snacks which are nutritious, appealing, and age-appropriate for young children. Recognition and treatment of child abuse victims will be addressed. It should be noted that CPR and First Aid are NOT part of this course.

ECE200 Math and Science Development in Childhood Education 3-0-3

This course will provide students with the theoretical and developmental knowledge necessary to effectively teach the basic concepts of math and science to young children. Students will develop their skills in preparing developmentally appropriate activities that promote inquisitiveness, problem-solving and exploration. The interrelationship between math and science and other areas of the curriculum will be explored. Students will need access to young children to complete course requirements. Prerequisite: ECE100, ECE 104, or permission of the instructor.

ECE201 Children's Individualized and Special Needs 3-0-3

The course will focus on the unique characteristics and needs of young children with communication disorders, sensory impairments, physical and health-related disabilities, child abuse, and giftedness, as well as those living with stress. Room arrangement plans, accommodations and modifications based on unique learning characteristics will be explored. Screening, assessment, early intervention, individualized education plans, inclusive education, community resources and family issues will also be presented and discussed. Prerequisites: ECE100, ECE 104, or permission of instructor.

ECE202 Practicum III: Student Teaching in Early Childhood Education 1-9-4

Students in Practicum III spend 9 hours/week in a college-approved early childhood facility that allows students to gradually assume teacher responsibilities under guided supervision. Practicum III allows students to assume teacher responsibilities in a variety of Early Childhood settings under guided supervision. Students will bridge the gap between theory and practice by applying and implementing theoretical knowledge and developmentally appropriate methodology in their work with young children. Students will assume increasing responsibility for teaching and classroom management throughout the semester by planning activities across the curriculum. Weekly seminars are scheduled to discuss issues of appropriate practice, discipline, lesson plans, observations, and other concerns. Students will complete Practicum III at a college-approved Early Childhood Education facility. Students will need to have Practicum experience with two different age groups (e.g., infant/toddler, preschool, and primary aged children.) during their senior year. Prerequisites: ECE 100, ECE 102, ECE 104, and ECE112.

ECE204 Developmentally Appropriate Curriculum for Infants and Toddlers 3-0-3

A study of the normal growth and development of the child from birth through toddlerhood. Emphasis is placed on the interrelationship of emotional, social, cognitive, physical and language development patterns of infants and toddlers. The student will learn to plan a developmentally appropriate curriculum based upon standards of NAEYC and NH Bureau of Child Care Licensing. The sequential and effective use of play materials will be presented as essential to an infant and toddler curriculum. Community Service will be part of the course where students will be required to volunteer and observe eight hours in an infant and/or toddler program. Prerequisite: ECE100, ECE 104, or permission of instructor.

ECE205 Developmentally Appropriate Programs for School-Age Children 3-0-3

This course will focus on current theories and practices relevant to the care of school-age children. Topics to be covered include an overview of the developmental characteristics of children ages 6-12, the roles and responsibilities of early childhood educators in planning and providing developmentally appropriate learning experiences for school age children, and the characteristic components of quality programs. The importance of building positive relationships between home, school, and community will be emphasized. Community Service will be part of the course. Students will be required to complete 8 hours of observation and volunteer in a program for school-aged children. Prerequisite: ECE100, ECE104 or permission of instructor.

ECE210 Child, Family, and Community 3-0-3

The young child is studied in relation to the family, school/center, and community. Students will explore the societal changes affecting the contemporary American family and the subsequent impact upon children. A focus of the course will be on the importance of the parent-teacher relationship. Students will participate in "mock" parent-teacher conferences, and prepare formal and informal means of sharing information with families about their child and the program. A Community Service project will be required. Prerequisites: ECE100 and ECE104.

ECE212 Practicum IV: Professional Development 1-9-4

This course is designed to extend the student's experiences in bridging the gap between theory and practice in Early Childhood Education by working with children of a different age level than the previous practicum. Students will assume increasing responsibility throughout the semester by planning activities across the curriculum. Weekly seminars are scheduled to discuss issues of early childhood facility management and professional development. Students will create a professional portfolio as part of the final requirement for this course. This course is designed to help bridge the gap between theory and practice by giving students in early childhood education specific experiences in working with groups of young children in licensed settings under the supervision of certified professionals. Students will participate in the daily activities of young children and will assume increasing responsibility throughout the semester by planning developmentally appropriate activities for their assigned group. Weekly seminars are scheduled to discuss issues of appropriate practice, discipline, lesson plans, observations and other concerns. Students will need to have practicum experience with two different age groups (e.g. infant/toddler, preschool and primary aged children) to obtain their associate degree. Prerequisite: ECE202.

ECE214 Appropriate Discipline and Guidance for Young Children 3-0-3

The emphasis of the course is on the role of positive child guidance in preparing young children to become competent, confident and cooperative individuals. Developmentally appropriate methods of guiding children will be shared, along with effective strategies for preventing disruptive behaviors in the classroom. A recurring theme will be the impact of positive discipline on self-esteem. The influence of developmental, environmental, and health factors will be examined. Theories behind the approaches and techniques of discipline and guidance issues will be discussed.
Prerequisites: ECE100 and ECE 104.

ECE 250 Childcare Administration and Management 3-0-3

This course is designed to provide students with information on administering an early childhood education program. Students will examine diverse programs available to the community, and examine state and federal licensing regulations along with national accreditation standards. Students will critically analyze the degree to which financial issues of marketing, accounting and funding affect the management of the center. In addition, students will identify components of a healthy organization that manages people and resources in a positive, supportive manner. This course is NOT part of the Associate Degree in Early Childhood Education but is required for Center Director qualifications in the State of New Hampshire. Prerequisites: ECE 100, ECE 104, or permission of instructor.

ECON134 Macroeconomics 3-0-3
This course analyzes the determinants of aggregate economic activity and the effects of government policies intended to achieve full employment, price stability and economic growth. The course examines consumer and business spending, government expenditures and tax policies, and the impact of the international sector on the US economy. Topics include: inflation, unemployment, interest rates, fiscal policy and the public debt, monetary policy, international trade and finance. (Fulfills Social Science requirement.)

ECON135 Microeconomics 3-0-3
This course equips the student with an understanding of fundamental economic principles and tools. It presents economic analysis with respect to demand and supply, consumer utility theory, elasticity, costs of production, perfect and imperfect competition, and resource markets. Prerequisite: ECON134. (Fulfills Social Science requirement.)

ECON136 International Economics 3-0-3
This course provides an introduction to foreign trade and international finance and an in-depth examination of recent developments in the economies of the United States, Europe, the former U.S.S.R., and the Pacific region. Discussion of NAFTA, the European Union, GATT, economies in transition, and other contemporary institutional changes will take place. (Fulfills Social Science requirement.)

EDU101 Introduction to Exceptionalities 3-0-3
This course examines the role and values necessary to support students who experience disabilities and the supportive role of teacher and paraeducator in inclusion in the home, community and school. The curriculum will emphasize the philosophy and practice of theory with a focus on educational collaboration, accommodations, and problem-solving strategies.

EDU104 Foundations of Education 3-0-3
This course is a survey of education in the United States. It examines the philosophical, historical and social/cultural characters of education, as well as how schools function organizationally. Topics to be explored include the roles of education, system philosophy, and trends that have influenced our current educational system. Students will be required to complete 20 hours of observation in a school setting.

EDU201 Teaching Methods I 3-0-3
This course presents an overview of strategies for organizing and teaching instructional content in elementary, middle, and secondary schools. Teaching students with diverse learning styles and backgrounds, classroom organization and management, lesson planning, and the use of technology in the classroom will be emphasized. A number of in-class and outside-of-class activities will result in creation of a teaching methods portfolio and reflective practice journal for the course. Students will develop and teach two lessons appropriate to their teaching goals. Prerequisite: EDU104.

EDU202 Current Practice: 3-0-3
Teaching, Learning, Assessment
This course will provide students with an in-depth study of the application of educational practices and pedagogical theory necessary to succeed as classroom teachers. The concepts presented will enhance and build upon material from prior courses. Students will incorporate current research and instructional strategies into their teaching repertoire as evidenced by individual and group activities. This course will prepare students for success in advanced methods and materials courses. Students will be required to complete a minimum of 10 observation hours in a school setting. Prerequisite: EDU104.

EDU205 Technology in Education 2-2-3
This course will provide students with strategies to incorporate the use of technology into the classroom. An emphasis will be placed on technology as a tool that facilitates learning and enhances the teaching process. Students will explore the value of technology as it directly relates to student achievement, professional growth, and classroom management. Prerequisite: EDU104, CIS110.

EDU206 Literacy in Education 3-0-3
This course will provide students with an in-depth study of literacy in education. The areas of reading, writing, listening, and speaking will be viewed as interrelating processes. A broad theoretical foundation will be given to promote a focus on literacy in today's classroom. Students will also preview current research and methods of support available to teachers. Material in this course will be discussed consistent with themes of reflective practice and acknowledging and responding to the unique learning characteristics of all students. Prerequisite: EDU104.

EDU210 Essentials of Career/Technical 3-0-3
Curriculum/Instruction
This course will explore the history, philosophy, principles, organization, and operation of career and technical education in the United States. Students will develop a functional understanding of the role and responsibilities of a professional career and technical educator. This course will provide the participant with the foundation and skills needed to design, implement, and manage a curriculum in career and technical education. Identification of resources and occupational analysis, derivation of content, formulation of objectives, defining measurable outcomes, and the selection and development of activities and evaluation methods will be explored.
Prerequisites: EDU104.

EDU215 Behavioral Challenges in the Classroom 3-0-3
Provides students with an in-depth understanding of classroom and individual behavioral intervention techniques. Strategies to support the development of a positive classroom environment, teaching social competencies, and other preventative strategies will be examined. Specific behavioral challenges and issues will be investigated. The course provides students with a broad theoretical foundation of behavioral intervention strategies to support children with emotional, behavioral, and social challenges. Integrating home-school collaboration and team collaboration will be emphasized. Prerequisites: Grade “C” or better in EDU101 and EDU104 or ECE104 and ECE114

EDU220 Families & Professionals in Special Education 3-0-3
Provides students with strategies for productive interactions among special educators, teachers, paraprofessionals, service providers, parents, and other professionals. Students will explore and develop collaborative and communication skills for participating in IEP/IFSP teams, co-teaching, and working with families as partners in the process. Students will also investigate the ethical issues in working with educational teams and families. Prerequisites: Grade “C” or better in EDU101 and EDU104 or ECE104 and ECE114.

EDU225 Curriculum Planning and Implementation for 3-0-3
Children with Unique Learning Characteristics
Provides students with an overview of effective instructional strategies, curricula, materials, student assessments, and assistive techniques for children with special educational needs. Classroom accommodations and instructional modifications to meet the goals of the IEP/IFSP, which can be implemented in a variety of instructional settings, will be introduced. Collaborative planning, co-teaching strategies, and effective methods for working with members of the IEP/IFSP team and families will be reviewed. Prerequisite: Grade “C” or better in EDU101 and EDU104 or ECE104 and ECE114.

ENGL097 Developing College Reading Skills 3-0-3
Students will develop proficiency in the fundamental communication skill of reading. The skills emphasized include recalling detail, identifying main ideas, drawing inferences, thinking critically, increasing reading speed, and expanding vocabulary. Prerequisite: placement testing or a grade of C or better in ESL100, or higher. These credits do not count toward graduation requirements.

ENGL098 Developing College Writing Skills I 4-0-4
Meeting individual needs is a primary goal of this course in which learners have the opportunity to strengthen their language skills in the unified context of the reading and writing process. Additional support is provided by structured writing workshops.
Prerequisite: placement testing or a grade of C or better in ESL100, or

higher. This course maynot be applied to meet certificate or degree requirements.

ENGL099 Developing College Writing II 4-0-4
This course places the development of composition skills in the context of the reading and writing process. Students will examine a variety of texts for idea development and analysis of the organizational patterns that underlie personal and academic writing. Prerequisite: placement testing or a grade of C in either ENGL098 or ESL120, or higher. This course may not be applied to meet certificate or degree requirements.

ENGL110 College Composition I 4-0-4
In this course, students learn to write clearly and effectively for defined audiences through a variety of strategies. Emphasis is on the writing process, from drafting through pre-writing, revision and editing. This course places reading at the core of the writing curriculum by including interaction with reading selections as the vehicle for idea development, analytical and interpretive skills, and research, and to serve as writing models. Prerequisite: placement testing or a grade of C or better in either ENGL099 or ESL130.

ENGL113 Oral Communications 3-0-3
This course is designed to give a student confidence and poise in a public speaking situation through practice in speech preparation and presentation. (Fulfills English or Humanities requirement.)

ENGL114 Introduction to Poetry 3-0-3
In this course, students will examine poetry in personal, historical and sociological contents. Prerequisite: ENGL110 or equivalent, or permission of the instructor. (Fulfills English or Humanities requirement.)

ENGL127 Introduction to Literary Analysis 3-0-3
This course offers an introduction to the skills of analyzing literature. The course will provide a basic understanding of the forms of fiction, poetry, and drama. It will also introduce the student to the various schools of criticism from traditional to modernism, to structuralism, deconstructionist schools, as well as psychological, feminist, and political critical theories. Prerequisite: ENGL110 or equivalent, or permission of the instructor. (Fulfills English or Humanities requirement.)

ENGL200 Themes in Literature 3-0-3
Various faculty explore topics of special or thematic interest determined on a semester basis, at a level appropriate both for students whose concentration is English and for others. Emphasis on close reading and critical writing on the substance and language of literature, literary techniques and genres. Prerequisite: ENGL110 or equivalent, or permission of the instructor. (Fulfills English or Humanities requirement.)

ENGL209 American Literature through the Civil War 3-0-3
This course samples American Literature from its beginnings through the Civil War period, emphasizing themes that have left their mark on American consciousness. Formal literary criticism is included as well as analysis of structure. Prerequisite: ENGL110 or equivalent, or permission of the instructor. (Fulfills English or Humanities requirement.)

ENGL210 Communications 3-0-3
In this course, students develop interpersonal and public communication skills, using informative and persuasive modes of written and oral presentations. This course builds upon the skills developed in College Composition. Prerequisite: ENGL110 or equivalent, or permission of the instructor. (Fulfills English or Humanities requirement.)

ENGL213 Creative Writing 3-0-3
In this course, the student will learn the techniques of creative writing. These techniques will run the gamut from brainstorming exercises to revising and editing. The student will learn these techniques through a combination of lecture, in-class exercises, and workshops. Prerequisite: ENGL110 or equivalent, or permission of the instructor. (Fulfills English or Humanities requirement.)

ENGL214 College Composition II 3-0-3
This course is designed to engage students in a reading and writing creative non-fiction. It will build on the skills developed in College Composition I to generate works written in a lively personal voice that are based on the active integration of experience and inquiry. Effective writing skills and research techniques are practiced, in addition to creative approaches to scholarly writing. Prerequisite: ENGL110 or equivalent or permission of the instructor. (Fulfills English or Humanities requirement.)

ENGL215 Writing Technical Documents 3-0-3
This is an introductory course that deals with writing and speaking effectively on technical subjects. The course stresses frequent practice in planning, composing, and editing letters, memos, and reports. The course also provides practice in resumé writing as well as researching, organizing and presenting material extemporaneously. Prerequisite: ENGL110 or equivalent, or permission of the instructor. (Fulfills English requirement.)

ENGL218 Short Story 3-0-3
This course presents the short story as a major literary type, providing an analytical reading and interpretation of modern and contemporary fiction. The elements of the short story and the critical vocabulary necessary for discussing it are introduced. Prerequisite: ENGL110 or equivalent, or permission of the instructor. (Fulfills English or Humanities requirement.)

ENGL220 American Literature after the Civil War 3-0-3
This course samples post-Civil War American literature, emphasizing themes that have left their mark on American consciousness. Formal literary criticism is included as well as analysis of structure. Prerequisite: ENGL110 or equivalent, or permission of the instructor. (Fulfills English or Humanities requirement.)

ENGL221 Western Literature through Early Renaissance 3-0-3
This course provides comparative studies of important periods of Western literary achievement from the beginnings of epic literature through the early Renaissance. Prerequisite: ENGL110 or equivalent, or permission of the instructor. (Fulfills English or Humanities requirement.)

ENGL222 Western Literature from Renaissance to Present 3-0-3
This course provides comparative studies of important periods of Western literary achievement from the Renaissance through the present. Prerequisite: ENGL110 or equivalent, or permission of the instructor. (Fulfills English or Humanities requirement.)

ENGL223 British Literature to 1800 3-0-3
A survey of British literature from the Middle Ages to 1800. Formal literary criticism is included as well as analysis of structure. Prerequisite: ENGL110 or equivalent, or permission of the instructor. (Fulfills English or Humanities requirement.)

ENGL224 British Literature 1800 to Present 3-0-3
A survey of British literature from 1800 to present. Prerequisite: ENGL110 or equivalent, or permission of the instructor. (Fulfills English or Humanities requirement.)

ENGL225 The Plays of William Shakespeare 3-0-3
This course will study the plays of William Shakespeare with the understanding that they were the popular entertainment of his day. Students will examine such themes as the tragic love of Romeo and Juliet, the comical view of love in *Much Ado about Nothing,* the military heroism of Henry V, the ruthlessness of Macbeth, and the tragic consequence of inaction in *Hamlet.* Prerequisite: ENGL110 or equivalent, or permission of the instructor. (Fulfills English or Humanities requirement.)

ENT100 Intro to Entrepreneurship/Emerging Ventures 1.5-0-1.5
This course will assess, explore, critique, and celebrate the phenomenon of entrepreneurship. Entrepreneurship is approached as a way of thinking and acting, as an attitude and a behavior. Our emphasis is on entrepreneurship as a manageable process that can be applied in virtually any organizational setting. Moreover, our interest is in sustainable-entrepreneurship of organizations as they evolve from start-up enterprise to sizeable corporations and of societies as they move from underdeveloped to post-industrial. The course's principle focus will be on the creation of new ventures, on the ways they come into being, and on the factors associated with their success. Students are encouraged to develop and defend their conclusions regarding each of these issues. It is also a course that integrates a number of different disciplines, ranging from sociology and psychology to economics, finance, marketing, and human resource management. Further, it is a course that mixes theory with practice. Students will be challenged to apply the principles and concepts to real-world scenarios.

ENT101 New Product Development 1.5-0-1.5
This course teaches you essential techniques needed to assess new product ideas, determine feasibility, and define those products. Leveraging the undercurrents of market and customer needs, you are taught the importance of creating superior, differentiated products and services that have true value for the right audience. The student will learn how to assess and prioritize those new product ideas according to economic and technical measures. The student will learn how to improve the probability of success for your product(s) by applying best practices in key areas such as market and competitive assessments, organizational capabilities, and the marketing dynamics. This product planning approach puts all the individual pieces together in a cohesive product master plan, business case, and financial forecast. This course explains best-in-class principles, processes, and tools for effectively developing and launching new products and services utilizing a traditional phase-gate process with some variations and new interpretations to enable shorter cycle times and faster time to market. Product managers are taught effective techniques to oversee the product development process, and a methodology for managing inputs, activities, and outputs that lead to critical decision points as development is completed and the product is readied for launch. (Excerpted from Sequent Learning Services - Product Development 201 - Developing Successful Products)

ENT102 Entrepreneurial Marketing 1.5-0-1.5
This class is an in-depth study of entrepreneurial marketing strategies and techniques. The class examines how start-ups or small to medium sized businesses with distinct needs market within limited budgets. The course compares conventional marketing to "guerrilla" marketing where hands-on creative methods are key to survival. These unconventional marketing tactics also can serve to revitalize larger businesses. Classes will focus on case discussions and guest speakers, assignments, and a team project.

ENT103 Legal Environment of Entrepreneurship 1.5-0-1.5
This is a course designed for entrepreneurs who are not lawyers but need to be aware of critical legal issues at each stage of development of an entrepreneurial company. The course will evaluate an overview of the legal and regulatory environment facing businesses today and those on the horizon. It will examine business law issues from start-up through the organization and financing of the new company. Legal forms of business, intellectual property rights, employment law, contracts, business disputes, financing agreements and conditions, law-sensitive issues and transactions crucial to the entrepreneur will be evaluated. The student will evaluate the strategic implications of business law, skills in using professional services and the sensitivity to the implications of law for corporate accountability, ethics, and the entrepreneur's role as a leader.

ENT104 Financing New Ventures 1.5-0-1.5
The course will cover various aspects of financing an entrepreneurial venture. The focus will be on attracting seed-growth capital from sources such as venture capital, investment banking, government sources, and commercial banks. Among the issues discussed are valuing a company, going public, selling out, acquisitions, bankruptcy, different legal forms of organizations, partnerships, and taxes.

ENT105 Entrepreneurial Management 1.5-0-1.5
This course is a pragmatic, "Real World" orientation to the entrepreneurial process of conceiving and implementing an idea for a new business venture. It is intended for students who have strong aspirations to eventually develop their careers in the context of entrepreneurial firms. Specific objectives of the course are for students to gain experience identifying and screening potential business ideas, and to understand the early stage development of a business idea into an opportunity with the potential to generate profits or other desirable returns. The student will learn how to define capital and other resource requirements, and how to gain access to them. They will develop a managerial confidence through the creation of a compelling business plan and will experience the intensive give-and-take of a team effort directed toward a specific goal.

ENT110 Building a Business Plan 3-0-3
The course will take students through the process of conceiving and creating a business plan, a key part of the process of starting a new venture. The course examines the purpose, components, development, creation, and presentation of the business plan in relation to what investors and financial institutions are looking for in a business plan.

ESCI110 Earth Science 3-3-4
This course will explore the basics of Earth Science including geology, meteorology, and astronomy. The geology section will include the many Earth processes that change the face of the planet such as plate tectonics and erosion. In meteorology, students will study how weather is created and its effects both globally and locally. The study of astronomy will include our solar system, stars and galaxies. Also covered will be possible origins of the universe as well as our place in it.

ESCI115 Contemporary Issues in Ecology 3-0-3
This is a one-semester course that will cover basic ecological concepts and explore contemporary environmental- and resource-management issues. The study of these issues will be based on the knowledge learned in class, as well as the natural and physical sciences. Included in these issues are global warming and loss of species diversity. The course will culminate in a research paper on a contemporary issue.

ESL100 ESL - Intermediate II 3-0-3
At this level, emphasis is given to comprehending and producing written English. The course focuses on strategy-based activities of information gathering, summarizing, reading for information, and problem-solving. Students develop vocabulary and academic reading skills and practice writing in various forms. Students at this level will use readings as models for developing effective writing skills. Grammar is taught in the context of all language skills. Prerequisite: a qualifying score on an ESL Placement Test, or Intermediate I with a passing grade. These credits do not count toward graduation requirements.

ESL102 TOEFL Preparation 3-0-3
This course prepares a student to acquire the language skills and test-taking strategies necessary to succeed on the Test of English as a Foreign Language (TOEFL). This course gives students the skills, strategies, practice and confidence needed to increase their scores on all sections of the TOEFL: listening, structure, reading and writing. These credits do not count toward graduation requirements.

ESL108 Pronunciation for Non-Native Speakers Course 3-0-3
This course focuses on improving oral communication skills (speaking and listening) with emphasis on pronunciation. Classroom exercises and activities will move from controlled practice, such as modeling and imitation, to using more communicative techniques such as role-play, drama, and oral presentation. Analysis of audio and videotapes of natural speaker conversation provides students with opportunities to improve their speaking and listening skills. These credits do not count toward graduation requirements.

ESL120 ESL - Advanced 3-0-3
This course is designed to provide the student with instruction and practice in all language domains via the reading/writing process. The course will provide opportunities for students to compose their own versions of the reading selections studied. Students will continue to use readings as models for developing effective academic writing skills. Beyond the course reader, students will use other reading materials (i.e., magazines, journals, and college textbooks) for discussion and reaction papers. Prerequisite: a qualifying score on an ESL Placement Test, or Intermediate II with a passing grade of C or better. These credits do not count toward graduation requirements.

ESL130 Composition in ESL - Writing 3-0-3
This course develops fluency in writing for students from all language backgrounds who are preparing to do academic work. At this level, students will use interdisciplinary readings as models for writing. This course will combine the reading selections, writing processes and cognitive strategy approaches to develop the literacy and thinking skills necessary for success in an academic setting. Students will practice writing effective compositions through prewriting, drafting, revising and editing. In addition, literary selections will be chosen to assist students in developing an awareness of the diversity of American culture. Grammar is taught in the context of all language skills. Prerequisite: a qualifying score on an ESL Placement Test, or ESL - Advanced with a passing grade of C or better. These credits do not count toward graduation requirements.

ESOL070 ESOL Beginning I Non-credit
This course is for individuals with limited experience in English. It is designed to provide students with practice in meaningful context with oral practice and using language in social, survival, or life skills. Students will practice practical everyday English, and develop basic listening, speaking, reading and writing skills.

ESOL075 ESOL Beginning Conversation I Non-credit
This beginning course focuses on improving speaking skills that are necessary in an academic setting. Speaking activities will be organized around reading and writing exercises. Grammar is integrated through the content of the material covered. Students will use expressions (e.g., idioms, dialogues) to increase their participation in conversations and thus build up their confidence and fluency in English.

ESOL080 ESOL Beginning II Non-credit
Students will build on their basic knowledge of English grammar, listening and speaking skills. Students will expand their vocabulary and develop reading, writing and learning strategies. Students will demonstrate an understanding of the reading materials by answering comprehension questions and completing assignments. Prerequisite: a qualifying score on an ESL Placement Test, or ESL-Beginning I with a passing grade.

ESOL088 Beginning Speaking, Listening, and Pronunciation Non-credit
In this introductory course, students receive instruction and extensive practice in speaking, listening, and pronunciation. Grammar is taught in the content of speaking and in the context of reading materials. The overall objective is for students to improve communication for work, school and daily situations.

ESOL090 ESOL Intermediate I Non-credit
This course develops intermediate level communication skills of English with intensive practice in reading skills development with explicit use of reading and learner strategies. In addition, students will continue to expand their spoken language to include assigned topics for class discussions and oral reports. Grammar is taught in the context of all language skills. Prerequisite: a qualifying score on an ESL Placement Test, or ESL Beginning II with a passing grade.

EXER110 Group Exercise Leadership 1-3-2
This lab class will expose students to the fundamentals of different modes of group exercise and enhance exercise leadership skills. Through practical lab activities and community service, students will gain the ability to teach, modify exercise, communicate effectively and motivate group participants.

EXER111 Introduction to Exercise Science Industry 1-3-2
A course designed to introduce students to the various sub-disciplines within the exercise science field. Students will observe and question professionals employed in several settings, including preventive adult fitness, corporate fitness, cardiac rehabilitation, physical therapy, orthopedic practice, sports medicine, and health education/wellness program.

EXER113 Physiology of Exercise 3-2-4
The course will focus upon basic nutritional biochemistry, energy metabolism, oxygen consumption, and alterations within the body resulting from acute and chronic physical stress. Study and analysis of aerobic and anaerobic metabolism, primary energy systems, and fuels used during exercise will serve as the foundation for additional study in exercise science. A weekly laboratory session will be congruent with the theoretical component. Prerequisite: BIOL110.

EXER116 Health Fitness Assessment & Programming 2-4-4
This course will focus upon health screening and risk stratification, pre-test evaluation, and basic principles and guidelines of physical fitness assessment. The assessment of cardiorespiratory capacity and body composition will be emphasized. Calculation and interpretation of data ascertained from the fitness assessments will be an integral part of the course. The course will include development of exercise programs based upon assessment results, client goals and health limitations. American College of Sports Medicine KSA's (knowledge, skills, abilities) and guidelines will be incorporated into the course framework. Prerequisite: EXER113.

EXER200 Advanced Physiology of Exercise 3-2-4
This course will focus on and provide an in-depth understanding of the integrated responses and adaptations to exercise of the cardiovascular, pulmonary and endocrine systems. Enhancement of work performance and adaptations to environmental stress will also be studied. Research-oriented lab sessions will be congruent with the theoretical component. Prerequisites: BIOL110, BIOL120, EXER113, ENGL 110.

EXER212 Physical Activity and Aging 3-0-3
This course is designed to prepare students in understanding the aging process and how physical activity may influence it. This course will integrate materials discussing matters of aging and how to incorporate a fitness program to meet the demands. Prerequisites: BIOL110, BIOL120, EXER113. Corequisite: EXER114.

EXER213 Resistance Training Essentials 2-3-3
The focus of this course will be upon muscular fitness assessment and programming. The assessment of muscular strength and endurance will be emphasized. Resistive training principles, modes, and methods will be addressed in detail. Practical considerations for resistance training and program construction will be an integral course component. Fitness programming for special populations, group and individual exercise leadership, client motivation, and the study of exercise adherence will be included in course content. Guidelines of the American College of Sports Medicine and the National Strength and Conditioning Association will be incorporated into the course framework. Prerequisite: BIOL110 or consent of the instructor.

EXER221 Exercise Science Internship 0-9-3
In this course, the student will acquire practical experience in a subdiscipline of exercise science through field-based internships under the auspices of one or more outside agencies. Prerequisites: Permission of instructor.

EXER230 Kinesiology 3-2-4
This course is designed to focus upon the integration of theoretical and applied aspects of human motion. Applied anatomy and analysis of exercise from a biomechanical and kinesiological perspective will be the major themes. A weekly laboratory session will be congruent with theoretical component. Prerequisites: BIOL110, BIOL120, EXER213**.**

EXER240 Injury Prevention & Post-Rehabilitative Exercise 3-2-4
The course will provide a basic background in sports medicine as relates to the Health Fitness Instructor (HFI). Primary emphasis will be on the prevention of injury, mechanics of injury, and post-rehabilitative exercise for common injuries. The course will also provide an understanding of emergency procedures, and the proper care and management of injuries once they occur. Prerequisites: BIOL110, BIOL120, EXER213, EXER230.

FINC110 Money & Banking 3-0-3
This course presents the practical application of economics of money and banking. Coverage includes commercial banking system, nature and functions of money, banks and the money supply, cash assets and liquidity management, bank investments, loans, earnings, Federal Reserve System and policies and operations, Treasury Department operations, and the changing national monetary system. Importance and impact of global economics will be discussed throughout the class.

FINC120 Personal Financial Management 3-0-3
This course is designed to provide the student with an effective learning experience in personal finance. Emphasis is placed on helping students make sound financial decisions in the areas of budgeting, insurance, taxes, credit, investment, real estate, and retirement planning.

FINC213 Problems in Managerial Finance & Financial Policy 3-0-3
This course is case driven. The cases involve decision making for real-world situations. Topics include financial analysis and planning, working capital management, capital budgeting, intermediate and long term financing, allocation of funds, and financial structure. Prerequisite: BUS221.

FINC215 Introduction to Investment Analysis 3-0-3
This course introduces the student to various investment options such as stocks, bonds, mutual funds and commodities. The focus will be on the decision making process for investment and portfolio management. Prerequisite: ACCT123.

FINC216 Budgeting and Forecasting 3-0-3
This course is designed to evaluate the process of corporate budgeting and forecasting. The course will use real world applications of comprehensive profit planning and control. Methods for forecasting will be evaluated. Prerequisite: ACCT123.

FINC217 International Corporate Finance 3-0-3
Designed to teach students to be effective financial managers for corporations with international operations, this course covers international financial management, international monetary system, foreign exchange rates, capital management, international capital markets, international financial institutions, tax regulations and accounting practices. Prerequisite: BUS221.

FINC225 Retirement, Trusts, Wills & Estate Planning 3-0-3
This course builds upon the personal finance information learned in the personal financial management class and goes more in-depth into personal financial planning. The focus will be on establishing retirement goals, evaluation of retirement portfolio options, selecting appropriate investments for long term objectives, investing for college funds, evaluation and preparation of wills, development of trust funds, and tax considerations in estate planning. Prerequisite: FINC120.

FREN110 French I 3-2-4
A fully integrated, introductory French course. The course is designed for beginning French students, with little or no prior knowledge of French. It is directed for students whose learning objectives and needs are in any of the following categories: for French language students, for business purposes as well as for travelers. The emphasis is to develop proficiency in basic communicative skills concentrating on the dynamic application of the living language taught through dialogue, phonetics, and vocabulary. A strong grammar foundation and other basic language skills are taught through actual phrases and sentences. Language laboratory activities are part of the course, reinforcing class content. These objectives will be achieved through the following: speaking, listening, reading, writing, and cultural appreciation. (Fulfills Foreign Language requirement.)

FREN111 French Conversational Practicum I 0-2-1
A comprehensive conversational practicum for French students whose learning objectives and needs are in reinforcing and developing the basic conversational and auditory skills aimed at increasing basic oral proficiency. It is directed for students who have had the equivalent of one year of high school French or one semester of college French. The emphasis is to develop and increase proficiency in basic communicative skills, review of basic structures, and reinforce reading and writing in a laboratory setting. Through a variety of meaningful and real situations, students will develop oral fluency. This practicum will be presented predominantly in French. Prerequisite: FREN110 with a passing grade of C or better, or a qualifying score on the French placement test, or instructor consent.

FREN120 French II 3-2-4
A continuation of the introductory French course for students who have had the equivalent of one year of high school French or one semester of college French. The course is designed for French students whose learning objectives and needs are in any of the following categories: for French language students, for business purposes as well as for travelers. The emphasis is to consolidate and reinforce the language skills acquired in French I or equivalent, and to continue building communicative skills and cultural competency. The course continues to offer a comprehensive review of basic first term grammar structures, while developing proficiency and advancement in communicative skills concentrating on the dynamic application of the living language taught through dialogue, phonetics, and vocabulary. A strong grammar foundation and other essential language skills are taught through actual phrases and sentences. Language laboratory activities are part of the course reinforcing class content. These objectives will be achieved through the following approaches: speaking, listening, reading, writing, and culture. Prerequisite: FREN110 or equivalent. (Fulfills Foreign Language requirement.)

FREN121 Conversational Practicum II 0-2-1
A comprehensive conversational practicum for French students whose learning objectives and needs are in reinforcing and developing the basic conversational and auditory skills aimed at increasing basic oral proficiency. It is directed for students who have had the equivalent of two years of high school French or two semesters of college French. The emphasis is to develop and increase proficiency in basic communicative skills, review of basic structures, and reinforce reading and writing in a laboratory setting. Through a variety of meaningful and real situations, students will develop oral fluency. Conducted in French. Prerequisite: FREN120 with a passing grade of C or better, or a qualifying score on the French placement test, or instructor consent.

GA101 Assessment of Prior Learning 1-0-1
This course will assist the student in preparing a resume, a statement of career objectives, a curriculum checklist, and life experience proposals. This course is required for anyone who has been accepted into the General Studies program.

GEOG110 World Geography 3-0-3
The course is an introduction to the geographic and cultural elements of the world's major regions. Demographics, origins, language, religion, geopolitics, and agricultural features of the regions will be covered. The importance of place (geography) and how it shapes the character of the neighborhood, city, country and world will be emphasized as we look at key issues from a geographic perspective. (Fulfills Social Science requirement.)

GERM110 German I 3-2-4
A fully integrated introductory German course, designed for beginning German students with little or no prior knowledge of German. It is directed at students whose learning objectives and needs are in any of the following categories: for German language students, for business purposes as well as for travelers The emphasis is to develop proficiency in basic communicative skills concentrating on the dynamic application of the living language taught through dialogue,

phonetics and vocabulary. A strong grammar foundation and other basic language skills are taught through actual phrases and sentences helping the student develop an instinctive sense of the correct usage. Language laboratory activities are part of the course reinforcing class content. These objectives will be achieved through the following approaches: speaking, listening, reading, writing and cultural appreciation.

GERM120 German II 3-2-4
A continuation of the introductory German course, for students who have had the equivalent of one year of high school German or one semester of college introductory German. The course is designed for German students whose learning objectives and needs are in any of the following categories: for German language students, for business purposes as well as for travelers. The emphasis is to consolidate and reinforce the language skills acquired in German I or equivalent and to continue building communicative skills and cultural competency. The course continues to offer a comprehensive review of basic first term grammar structures, while developing proficiency and advancement in communicative skills concentrating on the dynamic application of the living language taught through dialogue, phonetics and vocabulary. A strong grammar foundation and other essential language skills are taught through actual phrases and sentences helping the student develop an instinctive sense of the correct usage. Language laboratory activities are part of the course reinforcing class content. These objectives will be achieved through the following approaches: speaking, listening, reading, writing and culture.
Prerequisite: GERM110 with a passing grade of 'C' or better.

HIST120 Western Civilization through 1500 3-0-3
The course surveys the development of civilization in the Western world from the beginning of Mesopotamian culture through the Protestant reformation of the 16th century. Social, political, economic, and spiritual forces and patterns that shaped the eras of Western history will be discussed. History as the record of human struggle and achievement, change and continuity will be emphasized. (Fulfills Social Science or Humanities requirement.)

HIST130 Western Civilization-1500 to the Present 3-0-3
The course surveys the development of civilization in the Western world from the 16th century to the present. Social, political, economic and spiritual forces and patterns that shaped the eras of Western history will be discussed. History as the record of human struggle and achievement, change and continuity will be emphasized. (Fulfills Social Science or Humanities requirement.)

HIST202 United States History through 1870 3-0-3
The political, social, and cultural development of the United States from settlement to 1870 is studied. Emphasis will be on the development of nationalism, political institutions, sectional rivalry and slavery, and the cultural development of the American people. The course will conclude with the period of Reconstruction. (Fulfills Social Science requirement.)

HIST203 Topics in History 3-0-3
This course will vary by semester. Historical topics will be chosen to reflect faculty and/or student interest and will then focus on an in-depth coverage of that topic. All courses will focus on historical events, forces, personalities, ideas and values shaping the contemporary world. Critical thinking, speaking and writing skills will be emphasized, as well as the ability to analyze historical sources. (Fulfills Social Science requirement.)

HIST204 United States History - 1870 to the Present 3-0-3
The political, social, and cultural development of the United States from the period following Reconstruction to the present is covered. Emphasis will be on the urban industrial age, America as a world power, and the challenges to, and advances of, human rights and cultural pluralism. (Fulfills Social Science requirement.)

HIST205 History of Russia 3-0-3
This course is a survey of the history of Russia and the Soviet Union. Emphasis is on the political, economic and social developments of the 19th century, the revolution of 1917, the evolution of the communist state, and its collapse. (Fulfills Social Science requirement.)

HIST210 History of China 3-0-3
This course is a history of China from the Opium Wars to the present; explores the political, economic, social and intellectual upheavals which constitute recurrent elements in Chinese history. (Fulfills Social Science requirement.)

HIST211 Modern Middle East History 3-0-3
This course is a survey of the main political, economic, religious and political currents in the region of the world known as the Middle East. The emphasis will be on events since World War II. Topics will include colonialism, the rise of nationalism, the creation of modern nation-states, and the role of the state in an Islamic society. The relationship of the Middle East to the rest of the world, the US in particular, will be discussed. The geographic and historical roots of many current issues will be emphasized. (Fulfills Social Science requirement.)

HUMA105 Introduction to Music 3-0-3
This course is an introduction to Western music. The student will listen to, read about, and discuss the great music of the Middle Ages, Renaissance, Baroque, Classical, Romantic and Modern periods. (Fulfills Humanities requirement.)

HUMA112 Introduction to Humanities from Antiquity to the Renaissance 3-0-3
The student will study samples of the various forms of literature, art, music, the social and behavioral sciences, and philosophy representative of the time and culture under discussion. The course will focus on the recurring questions and changing responses concerning the human condition. Though the emphasis will be on the Western tradition, examples from various world cultures may be included. (Fulfills Humanities requirement.)

HUMA113 Introduction to Humanities from the Renaissance to the Present 3-0-3
The student will study various forms of literature, art, music, the social and behavioral sciences, and philosophy representative of the time and culture under discussion. The course will focus on the recurring questions and changing responses concerning the human condition. Though the emphasis will be on the Western tradition, examples from various world cultures may be included. (Fulfills Humanities requirement.)

HUMA114 History of Photography and Publishing 2-0-3
Students will explore the history of photography and publishing. Topics will revolve around the birth of photography, historical photographic techniques, the impact photography had on society, and photography as an art form. Studies will look at selected historical photographers. The evolution of printing and publishing will also be studied and its impact on the society. (Fulfills Humanities requirement.)

HUMA117 Art History I 3-0-3
This course surveys the history of art and design in Western and non-Western traditions from prehistoric to the Baroque period or 17th century. The course emphasizes the connections among historical, political, social, religious and artistic developments, showing how artists and designers are influenced by the culture and time in which they live. (Fulfills Humanities requirement.)

HUMA118 Survey of European Architecture & Design 3-0-3
This course provides the student with an analysis of the elements, style and design concepts of period architecture and decorative arts from ancient Egypt to 19th century Europe.

HUMA119 Survey of American Architecture & Design 3-0-3
This course provides the student with an analysis of the elements, style and design concepts of period architecture and decorative arts. Students will also compare styles of Europe, previously studied, with styles in America. Prerequisite: HUMA118.

HUMA126 Introduction to Film 3-0-3
This course involves viewing, discussing, researching and analyzing representative films. Students will view a variety of film of different genres and answer questions, write papers or present their viewpoints based on documentation. (Fulfills Humanities requirement.)

HUMA127 Art History II 3-0-3
This course surveys the history of art and design in Western and non-Western traditions from the 18th through the 20th century, emphasizing the connections among historical, political, social, religious and artistic developments, showing how artists and designers are influenced by the culture and time in which they live. (Fulfills Humanities requirement.)

HUMA130 Survey of Visual Arts 3-0-3
This course surveys and compares works of visual art and design from Western and non-Western traditions. The course emphasizes the relationship among themes, techniques and periods. Using the video series "Works in Progress," students will learn how art is made by seeing individual artists create a work of art from start to finish. Students will explore how various artists use the critical thinking process of questioning, exploration, trial and error and discovery. Through a CD-ROM that accompanies the textbook, students will have practical, hands-on computer experience manipulating the elements of art and creating their own designs.
(Fulfills Humanities requirement.)

HUMA150 Critical Thinking I 3-0-3
This is a reading, writing, and speaking course that applies critical and creative thinking skills to controversial contemporary issues. Skills from asking incisive questions to making wise decisions are presented sequentially. The skills are then applied in analyzing and evaluating selected readings. Stress is also placed on having students develop greater confidence in their ability to make rational choices about social issues. (Fulfills Humanities requirement.)

HUMA200 Film and Society 3-0-3
This course will study American film as an expression of American society. Film as a reflection of social trends and changes in America will be emphasized. The course will study five (minimum) genres of film: Film Noir, the Western, War films, Science Fiction and Horror films. The influence of film on social and cultural values will be discussed. Prerequisites: ENGL110. (Fulfills Humanities requirement.)

HUMA205 Liberty and Justice: A Humanistic Approach 3-0-3
Liberty and justice are two concepts dear to the hearts of Westerners (certainly to Americans), but too often assumed as unquestioned givens. This course explores the torturous progress of these treasured ideas through the centuries by studying representative works of literature, history, philosophy, politics, art and music. Prerequisite: ENGL110. (Fulfills Humanities requirement.)

HUMA210 The Darker Side of Man 3-0-3
Students will critically read and discuss from primary sources, works that reveal the dark side of human nature according to the Western tradition. Readings from literature, poetry, drama, philosophy, history and politics will form the core of study, as well as related works in art, music, and film as appropriate. One formal research paper and short papers on a weekly basis. (Fulfills Humanities requirement.)

HUMA220 Love in the Western Tradition 3-0-3
Love as a concept and as an activity consumes much time and space in the history of the human race. Both the literary and performing arts consider love as an abiding theme. The relationship of love to marriage will be carefully examined. (Fulfills Humanities requirement.)

HUMS111 Introduction to Human Services 3-0-3
This course will provide an introduction to the background information and concepts necessary to understand the theory and practice of human services. The information will be drawn from the disciplines of history, sociology, and psychology, joined together by values-based themes of social role valorizations, ethical behavior, and philosophy, as well as the practice of work in the human services.

HUMS114 Assessment and Planning 3-0-3
This course reviews the process for designing and implementing supports for human service consumers. Presentation and discussion will include current and evolving models for assessments and planning, as well as the factors that influence achievement of individual plans. Prerequisite: HUMS111.

HUMS116 Professional Seminar I 2-3-3
This course is designed to provide initial exposure to human services programs, agencies, and their consumers. The student will develop professionally and will survey human services agencies and programs. Focusing on issues of professionalism, ethics, the development of interviewing skills, and the analysis of case studies, students will be expected to become familiar with a variety of agencies or programs. Guest speakers, consumers, and others may be invited to introduce students to their particular area of human services. Students will be required to obtain physical exams and a state police criminal check, and will spend 45 hours in site observations.

HUMS117 Professional Seminar II 2-3-3
This course will introduce students to the field culture of human services. The focus of this skill-building course will be to maximize the fit be-tween the students as potential human services providers and the current and future needs of human services agencies. Towards this end, the course will include professional skill development; i.e., a review and expansion of leadership, conflict, negotiation, and group dynamic skills. Students will improve professional relationship skills and required legal knowledge. Students will spend 45 hours at a human services agency. Prerequisite: Satisfactory completion of HUMS116.

HUMS212 Interpersonal Dynamics 3-0-3
This course provides an awareness and general practice of interactional communication skills expected in a supportive relationship. Supportive communication will be taught through verbal instructions, role-playing activities, videotaping, class discussions, case studies, and peer and self-assessment. Observation and evaluation methods will be incorporated to assess the student's communication skills.
Prerequisite: HUMS111.

HUMS213 Issues in Developmental Disabilities 3-0-3
A seminar course that surveys issues related to understanding developmental disabilities. The first half of the course discusses the major types of developmental disabilities, their causes and treatments, and reviews the physical, psychological, and social impact of having a developmental disability. For the second half of the course, students will select and discuss topics of interest to them.
Prerequisite: HUMS111.

HUMS214 Issues of Childhood and Youth 3-0-3
A seminar course that surveys issues related to the processes of development. The first half of the course discusses the major devel-opmental process and reviews the psychological, social, and cultural impact of a variety of issues that may affect development. For the second half of the course, students will select and discuss topics of interest to them. Prerequisite: HUMS111.

HUMS215 Issues of Adjustment and Mental Health 3-0-3
A seminar course that surveys recent developments in understanding adjustment. The first half of the course discusses adjustment as an ongoing process, identifies the major types of adjustment problems and their treatment. Reviews the psychological, social and cultural impact of adjustment problems. For the second half of the course, students will select and discuss topics of interest to them.
Prerequisite: HUMS111.

HUMS217 Chemical Dependency 3-0-3
This course introduces the concepts relevant to the diagnosis and treatment of chemical dependency. Discusses the disease concept of chemical dependency, the concept of denial, and the provision of support and treatment for people with chemical dependency and related issues. Prerequisite: HUMS111.

HUMS218 Professional Seminar III 2-3-3
ProSeminar III builds upon the foundations established through work in both previous ProSeminar semesters. The course integrates prior academic and placement experience in an individualized format through an in-depth study of a field placement using participant-observer methodologies. The end focus is on skills, knowledge, and case studies from ProSeminar I, II, and the placement of ProSeminar III. The field report will be presented in a departmental colloquium with a bound copy retained in the department library. Students will spend 45 hours in the field for this course. Prerequisite: Satisfactory completion of HUMS116 and HUMS117.

HUMS219 Professional Seminar IV 3-0-3
This course will enable students to develop a personally integrated career portfolio with resume. Classes will be devoted to active exploration of personal style assessment, documentation of transferable skills, development of a personal profile sheet, documentation of academic history, networking, interviewing, and other research techniques, job search skills, and the formulation of long range career/life plans and resume development. Students will also spend 45 hours in a supervised work site for this course. Prerequisite: Satisfactory completion of HUMS116, HUMS117 and HUMS218

HUMS220 Psychosocial Aspects of Aging 3-0-3
The course will focus on the particular psychological issues and vulnerabilities of the normal aging process. The connection between physical and mental health will be explored, as well as the specific manifestations of emotional crises and their effect in a variety of living situations. The population targeted will be people aged 65 and over. Prerequisites: HUMS 111, PSYC 110, or permission of the instructor**.**

HVAC111 Fundamentals of Refrigeration I Theory 3-0-3
This course provides an introduction to the principles of heat and its transfer, with emphasis on the compression cycle and its four major components. Prerequisite/Corequisite: HVAC113.

HVAC112 Fundamentals of Refrigeration I Lab 0-3-1
Soldering, silver brazing, flaring, swagging, and the use of specialized tools are covered. Students will receive hands-on experience with equipment using manifold gauges, reading pressure/temperature charts, and learning service procedures. Prerequisite/Corequisite: HVAC113.

HVAC113 Related Electricity I 3-3-4
Theory and lab work on the principles of DC and AC electricity that are fundamental to the HVAC area. These include: Ohm's law, series circuits, parallel circuits, meters, wire gauges, magnetism, AC generation, AC calculations, and basic electric motor principles.

HVAC114 Fundamentals of Heating I Theory 3-0-3
A thorough study of the residential high pressure, gun-type oil burner. Topics covered include: basic combustion theory, how the components of high pressure gun type burners operate, choosing replacement parts, mechanical troubleshooting, oil tank installation, advanced combustion theory, and steady-state efficiency testing. Prerequisite/Corequisite: HVAC113.

HVAC115 Fundamentals of Heating I Lab 0-3-1
An introduction to residential high pressure, gun-type burners which includes an in-depth, hands-on course covering the components, component testing, replacement, maintenance and burner troubleshooting, and steady-state efficiency testing. Prerequisite/Corequisite: HVAC113.

HVAC116 CETP Basic Principles and Practices of the Gas Industry 3-3-4
This course, combined with HVAC126, provides the student with the theory and hands-on training needed to gain national certification in the gas industry's Certified Employee Training Program. Upon successfully passing third party testing, the student will be certified in Basic Principles and Practices, Appliance Installation, and Appliance Service for both propane and natural gas. Basic Principles and Practices will teach the student the physical properties and combustion characteristics of propane and natural gas, identifying propane and natural gas industry standards, safety codes and regulations, identifying the basic parts of tanks, cylinders, and bulk storage installations, maintaining a safe working environment, identifying commonly used hand tools and supplies, and serving the customer. This course will cover more than half of the Appliance Installation Course; the remainder will be completed in HVAC126. Here, the student will learn to place propane and natural gas utilization equipment in service, identifying the fundamental principles of venting and ventilation, pressure testing and leak checking propane and natural gas piping systems, controlling propane/air and natural gas/air mixtures for proper combustion, and sizing and installing natural draft venting systems.

HVAC121 Fundamentals of Refrigeration II Theory 3-0-3
A continuation of Fundamentals of Refrigeration I, this course covers electrical circuits, controls and motors necessary for the operation of various residential and small commercial units, components necessary for optimum operation and efficiency, and basic mechanical and electrical troubleshooting. Prerequisite: HVAC111.

HVAC122 Fundamentals of Refrigeration II Lab 0-3-1
A continuation of Fundamentals of Refrigeration Lab I, this course covers electrical meter testing of controls, motors and circuits, reading wiring diagrams, troubleshooting, and repair of various system malfunctions. Prerequisite: HVAC112.

HVAC123 Related Electricity II 3-3-4
A continuation of HVAC113 covering electrical circuit controls commonly found in air conditioning and heating systems. Prerequisite: HVAC113.

HVAC124 Fundamentals of Heating II Theory 3-0-3
An in-depth study of residential heating system controls, with topics including the proper selection, use and theory of operation, maintenance, troubleshooting, and replacement of heating controls. Their use in steam, warm air, and hot water systems to achieve comfort and efficiency is also covered. Reading wiring diagrams is emphasized. Prerequisite: HVAC114.

HVAC125 Fundamentals of Heating Lab II 0-3-1
A continuation of Heating Lab I, with topics including control identification, applications, control system design, troubleshooting, and replacement. The student designs and installs steam, warm air, and hot water control systems following relevant codes. Prerequisite: HVAC115.

HVAC126 CETP Gas Appliance Installation and Gas Appliance Service 3-3-4
This course, combined with HVAC116, provides the student with the theory and hands-on training needed to gain national certification in the gas industry's Certified Employee Training Program. Upon successfully passing third party testing, the student will be certified in Basic Principles and Practices, Appliance Installation, and Appliance Service for both propane and natural gas. This course will complete the Appliance Installation course begun in HVAC116. Here the student will learn to place propane and natural gas utilization equipment in service, identifying the fundamental principles of venting and ventilation, pressure testing and leak checking propane and natural gas piping systems, controlling propane/air and natural gas/air mixtures for proper combustion, and sizing and installing natural draft venting systems. Appliance Service will cover identifying trouble-shooting skills in electrical circuits/systems, measuring electrical quantities, identifying operating characteristics and components of common sensing devices, and troubleshooting control devices basic to gas-operated equipment. Prerequisite: HVAC116.

HVAC211 Commercial Refrigeration Theory 3-0-3
This course covers system design, selection of proper units, piping size and layout, wiring controls and troubleshooting. Prerequisites: HVAC121, HVAC122.

HVAC212 Commercial Refrigeration Lab 0-6-2
This lab covers installation of a stock list of components and electrical supplies; installation of commercial units found in small stores, restaurants, and supermarkets; start up and charging procedures, including use of a charging cylinder for critically charged units. Prerequisites: HVAC121 and HVAC122.

HVAC213 Hydronic and Steam Systems Theory 3-0-3
Topics include heat loss calculation; forced hot water system and steam system components; piping layout; selection of system components; and problem-solving, which involves troubleshooting and replacement. Various methods of heating domestic hot water are also studied. Prerequisite: HVAC124.

HVAC214 Hydronic and Steam Systems Lab 0-6-2
This lab is an in-depth study of residential forced hot water and steam heating systems. The student designs and installs a complete hot water system including the piping arrangement, control system, and method of heating domestic hot water. Forced hot water service skills are emphasized. The student also begins a steam system installation. Prerequisite: HVAC125.

HVAC221 Residential and Commercial 3-0-3
Air Conditioning and Heat Pumps Theory
Topics include the proper use and understanding of the psychometric chart and its use for comfort control and the operation of complicated central unitary and split systems. Emphasis placed on the special requirements of heat pumps. Prerequisites: HVAC121 and HVAC122.

HVAC222 Residential and Commercial 0-6-2
Air Conditioning and Heat Pumps Lab
This lab covers installation and start up of central air conditioning systems and heat pumps; troubleshooting and mechanical/electrical repair of various makes and models; pricing components and billing procedures. Prerequisites: HVAC121 and HVAC122.

HVAC223 Warm Air Systems Theory 3-0-3
Residential steam and warm air system components are introduced, along with methods of piping and duct layout. Maintenance, troubleshooting, replacement, alteration and total system designs are emphasized to help the student learn the various concepts involved. Prerequisite: HVAC124.

HVAC224 Warm Air Systems Lab 0-6-2
This lab is a continuation of HVAC214 and covers installation of steam and warm air systems, layout and make up of ductwork, multi-fuel units, and gas heating. Prerequisite: HVAC125.

HVAC243 DDC & Building Controls Automation I 5-0-5
This course introduces electronic environmental and industrial control concepts and equipment to electricians, HVAC technicians, and maintenance personnel. The course consists of basic subject matter such as introduction to electronics; solid-state theory and devices; digital numbering systems; digital logic; and basic theory of analog and digital control devices and systems. The course then advances to Computer System architecture; programmable logic controllers; direct digital control for total energy management systems; electronic controls for HVAC equipment; and industrial control devices and systems. This course is intended for students with prior training in electrical theory and practice with electrical equipment. A review of basic electrical theory will precede the other subject matter, but this review is intended as a brief refresher only and not as preparation for the course material to follow.

HVAC244 DDC & Building Controls Automation II 3-3-4
An advanced control systems course intended for students who have taken and successfully passed HVAC 243, this course covers Commercial/Industrial control systems. Pneumatic, Electrical, and Electronic control systems will be covered as well as associated subject matter such as Variable Frequency Motor Drives, Variable Air Volume Systems, and Heat Recovery in order to fully prepare the student for advanced control systems applications. The course will then focus on new technology building control systems. System controller types, analog and digital sensors and actuators in system configurations, data communications and systems interfacing, DDC systems strategies and troubleshooting methods and equipment will be covered in detail. There will be a significant amount of hands-on lab work in this class on systems and equipment. Every attempt will be made to keep the material presented in this course as current as possible. This is an advanced course and its intent is to provide the student with the knowledge, ability, and experience to work confidently with existing control technology and adapt to new technology as it develops. Prerequisite: HVAC243 with a minimum grade of "C" or better.

ID110 Interior Design I 2-3-3
Students are introduced to the principles and elements of interior design: the application of color and lighting; space planning and design compositions; the use of materials; furniture selection, styles and arrangements.

ID112 Color in Interior Design 2-3-3
The planning of color relationships is key to a successful interior design. This course explores the basics of color theory with special emphasis on the specific needs of interior design. Color decisions related to buying furniture, carpet or drapery, choosing paint color or wallpaper, hanging a picture or placing an object, are all explored here. Students will have the opportunity to work with various color media in the lab. This course cannot substitute for CDI122. Prerequisite: ID110.

ID114 Drawing for Interior Design 2-3-3
Students will develop their freehand sketching skills and design abilities through effective instruction in freehand sketching of interior design elements and furnishings. Success in artistic creativity depends upon extensive visual exposure leading to acute visual perception and imagination. Through beginning, intermediate and advanced scenarios, the student will learn visual literacy and how to interpret various design concepts to the client through sketching presentations.

ID200 Materials and Components 3-0-3
This course surveys the architectural and decorative materials used by interior designers. Presented are the properties, attributes and installation characteristics of the major interior design components - paints and finishes, carpeting, floors, walls, ceilings, hardware, cabinet construction, kitchens and bathrooms. Co/Prerequisite: ID110.

ID210 Interior Design II 2-3-3
Application of the principles and elements of interior design continues with emphasis on public and commercial design. Layouts for interiors, use of color, materials and finishes are studied and employed in a variety of projects through plan, elevation and perspective drawing. Prerequisite: ID110.

ID212 Lighting Design 3-0-3
A comprehensive lighting course for the advanced interior design student who is familiar with the design process and has fundamental drafting skills. Included are principles of quality lighting as applied to the fundamentals of lighting, elements of lighting systems, case studies and presentation of lighting solutions. Prerequisites: ID110, ID210, BLDG100.

ID215 Textiles 3-0-3
This course covers the study of textile materials with emphasis on fabrics used by interior designers. Fiber content, yarn and fiber type, construction, coloration, and finishes are examined. Projects focus on the use of textiles within residential and office interiors. Co/Prerequisite: ID110.

ID220 AutoCAD for Interior Design 2-3-3
This is a basic 2D drawing course offered to Interior Design students interested in learning to put their ideas into digital media using AutoCAD software. Course topics include menus, layers, toolbars, solids, arrays, working with photographs of interiors, color plotting, making blocks of design pieces and dimensioning. Drawing of floor plans and evaluations will be included. Prerequisite: CIS110.

ID223 Interior Design III 2-3-3
Application of principles and elements learned in Interior Design I and Interior Design II with emphasis on spatial issues. This course is geared for students who are at least on an intermediate level of design, have knowledge of all of the basic elements as well as competency in drafting, materials, finishings and other similar fundamentals. Emphasis is placed on the designer's role in helping the clients make sense of their physical world, showing specific ideas and how to implement them and ultimately promote critical thinking. Prerequisite: ID210 (waived with permission of instructor).

ID224 Professional Practice in Interior Design 3-0-3
A complete working knowledge of effective business practices such as developing and implementing a good business plan, managing finances, negotiating contracts, price, products and set fees, as well as becoming familiar with business formations, legal responsibilities and selling techniques. The student will become familiar with forms and documents and learn how to adapt them for use by any firm. Prerequisite: ID110 (waived with permission of instructor).

ID225 Interior Design Internship 1-8-3
This course involves a cooperative work experience program consisting of training in area Interior Design establishments and businesses that are related to the design industry. The college coordinator and the organization's work supervisor evaluate students' work experience and achievements. Students meet in seminar session to discuss and analyze their experiences. Additional topics will include resume and cover letter preparation, role-playing of interview techniques, managerial training and evaluation of career opportunities. Prerequisites: All Interior Design freshmen courses.

ID226 Portfolio Preparation for Interior Design 1-3-2
Students will produce a professionally mounted portfolio of at least 15 pieces, a press release, a mini-portfolio and an electronically produced portfolio on CD. They will learn how to develop a layout and utilize marketing tools. Preparation for interviews and practice interviews will also be included. Prerequisites: All Interior Design freshmen courses.

INT101 College Success Seminar 1-0-1
This course is designed to introduce the student to the fundamental concepts of critical thinking as they apply to foundational college success. It is an introduction to the academic environment of the college and its unique challenges. Through the development of specific study plan and career portfolio, students will identify techniques they will use to achieve academic success and support lifelong learning.

INT102 Learning Community Seminar 2-0-2
This course is specifically designed to support participation in learning communities through two interrelated components. One component is a direct and integrative approach to study skill development and application. The other component establishes a seminar approach to synthesizing and unifying the concepts or themes of the individual courses in the learning community cluster. (This course will fulfill the INT 101 College Success Seminar Requirement.)

MATH070 Developmental Mathematics 3-0-3
The content of the course is designed to either review or to enhance the mastery of basic mathematical concepts and skills needed to successfully complete future courses in math. The inclusion of numerous real-data and real world applications relating to everyday life or to other academic disciplines will enable the student to begin the development of a firm foundation of math facts and problem-solving skills. Calculators will not be used in this course until the very end of the term. Offered every semester. Credits do not count toward degree requirements.

MATH080 Developmental Algebra 3-0-3
This course is for the student who possesses an adequate background in basic math concepts and skills, but who has never taken an algebra course or who needs a refresher course Topics covered are operations with signed numbers; algebraic expressions; linear equations/inequalities; exponents; square roots; understanding and manipulating formulas; translating and solving word problems; interpreting/analyzing data, and basic graphing techniques, and applications of all skills. Offered every semester. Credits do not count toward degree requirements. Prerequisite: MATH 070 or placement test.

MATH111 Numerical Geometry 3-0-3
This is an applied course in Euclidean geometry stressing calculator manipulation and problem solving. The topics include linear, area, and solid measures involving US and SI units, solutions of linear equations, proportional relationships, congruent and similar figures, properties of polygons, circles and ellipses. Prerequisites: satisfactory placement test scores as defined by mathematics faculty or successful completion (grade of C or better) of one year of college preparatory algebra, or successful completion (grade of C or better) of MATH080.

MATH131 College Algebra I 3-0-3
This is the first college-level algebra course offered at NHCTC. The course helps students further develop a knowledge foundation of basic algebra concepts that are required to solve problems in all programs of study available at the college. The algebra topics offered are signed numbers; polynomial operations; solutions of linear equations and inequalities involving numerical and literal terms; factoring polynomials; word problems; formula manipulation; graphing linear equations; systems of linear equations and solutions of equations by factoring or the quadratic formula; and an introduction to functions and their related notions. Prerequisites: satisfactory placement test scores as defined by mathematics faculty; successful completion (grade of C or better) MATH080; or permission of the instructor.

MATH132 Business Mathematics 3-0-3
This course is designed to help the student learn the mathematics needed to perform personal and business operations effectively and efficiently. Students will use mathematics in applications involving interest, personal finance, loans, taxes, depreciation, insurance, investments, retailing and accounting practices, and financial statements. Prerequisite: successful completion of MATH080 or its equivalent, with a C or better, or permission of the instructor, or appropriate results of placement test.

MATH135 Numerical Algebra and Trigonometry 3-0-3
This course provides students with the basic algebra and trigonometry manipulatives to compute solutions in their curriculums. The algebra topics offered are signed numbers, polynomial operations, solutions of linear equations involving numerical and literal terms, word problems, and formula manipulation. The trigonometric topics are trigonometric ratios as applied to right triangles and computation of measures in oblique triangles, using the Law of Sines and the Law of Cosines. Prerequisite: successful completion (grade of C or better) of MATH111 or permission of the instructor.

MATH141 Technical Mathematics 3-0-3
This course covers the essentials of numerical algebra, geometry and trigonometry by using different problem-solving strategies. A short review of elementary algebra topics will be followed by an introduction of geometric principles and trigonometric functions. The solution of applied problems will require the integration of these topics. The trigonometric topics include trigonometric ratios in solving right triangles and vectors applications, Laws of Sines and Cosines in solving oblique triangles and selected analytic geometry applications (or trigonometric applications in analytic geometry). Prerequisite: satisfactory placement test scores as defined by mathematics faculty or successful completion (grade of C or better) of MATH131; or permission of the instructor.

MATH151 Intermediate Algebra 3-0-3
This course prepares the student for higher level mathematics by covering further topics in algebra including exponents; polynomials; factoring; rational expressions; and solving linear, higher degree and rational equations (including the quadratic formula). Quadratic functions, composite and inverse functions are introduced. Solving systems of linear equations of three and more variables by matrices and solving systems of inequalities by graphing. Solving of exponential

and logarithmic equations. Prerequisite: satisfactory placement test scores as defined by mathematics faculty, or successful completion (grade of C or better) of MATH131, or permission of the instructor.

MATH170 Discrete Mathematics 4-0-4
This course will provide a mathematical foundation in the understanding of set theory, abstraction, and formal proofs. Key topics to be addressed include logic, Boolean algebra, sets, induction, groups, discrete functions, recursion, graphs, trees, and the study of algorithms. Prerequisite: MATH141.

MATH171 Pre-Calculus 4-0-4
This course covers the following topics: functions, relations, graphs, domain and range, composition of functions, inverse functions; exponential and logarithmic functions and expressions; trigonometric functions; fractions, roots and radicals; complex numbers; and the conic sections. Other topics to be investigated include topics in algebra, geometry and trigonometry. Prerequisite: Satisfactory placement test scores as defined by the mathematics faculty or MATH141 with C or better or permission from the instructor.

MATH200 Finite Mathematics 4-0-4
This course begins with a review of linear equations, inequalities and systems of equations emphasizing graphing methods. Topics include matrices, linear programming, sets, and introduction to probability, the mathematics of finance, and the simplex method. Prerequisites: successful completion (grade of C or better) of MATH131; satisfactory placement scores as defined by mathematics faculty; or permission of the instructor.

MATH202 Probability and Statistics 4-0-4
Topics include basic measures of central tendency and variability; frequency distributions; probability; the binomial distribution; the normal distribution; sampling of distributions; estimation of parameters; confidence levels and hypothesis testing; non-parametric tests; simple regression and correlation analysis. Prerequisite: satisfactory placement scores as defined by mathematics faculty; or successful completion (grade “C” or better) of MATH131 or permission of the instructor.

MATH204 Calculus I 4-0-4
A first calculus course designed to explore functions, limits, continuity, derivatives; rules for differentiating algebraic, trigonometric, exponential and logarithmic functions; chain rule; implicit differentiation; related rate problems; max-min problems; curve sketching; integrals, areas and volumes. Prerequisite: MATH171.

MATH214 Calculus II 4-0-4
This is a second course in calculus. Topics include area, volume, arc length, surface area, pressure force; integration of trigonometric, exponential and logarithmic functions; differentiation and integration of inverse trigonometric and hyperbolic functions; methods of integration; improper integration; infinite series, Taylor and MacLaurin series; and polar coordinates. Prerequisite: MATH204.

MCOD100 ICD-9-CM CODING 3-0-3
ICD-9-CM Coding focuses on the evaluation and management aspect of coding for medical settings. Students will be required to apply their knowledge of medical terminology and the human body to interpret and abstract pertinent data needed to accurately code insurance claims to optimize reimbursement. ICD-9-CM manuals will be explained and utilized extensively. Prerequisites: AH110, BIOL106. A GPA of 2.0 is required to continue on to MCOD215.

MCOD110 CPT Coding 3-0-3
This coding course focuses on surgical procedures with individual emphasis on each of the body systems, radiology, pathology and behavioral medicine. Special attention will be paid to the use of modifiers for definitive CPT coding. Students will continue to interpret and abstract data from simulated and actual case studies. Prerequisites: AH110 and BIOL106. A GPA of 2.0 is required to continue on to MCOD215.

MCOD215 Health Information Services Coding 3-0-3
This final course in coding focuses on the coding of inpatient hospital procedures. Students will continue to work with ICD-9 and CPT codes, and will become familiar with the HCPCS codes needed for hospital reimbursement. The course will teach students how to accurately sequence diagnoses and procedures to determine co-morbid and complicating diagnoses found in the various fields of medicine. Students will learn to abstract and code using actual patient charts. Particular attention will be paid to Medicare compliance. The use of encoders (software pkgs.) to facilitate coding will be explained. Pre-requisites: MCOD110, BIOL112. GPA of 2.0 is required to pass course.

MEDA122 Medical Office Procedures 3-0-3
Offers students the opportunity to explore, study, and practice numerous administrative responsibilities associated with work in a medical office. The course focuses on career opportunities, professionalism, appointment scheduling, composition of letters relevant to the medical office, telephone techniques, office management, banking duties, and maintaining patient ledger cards and daily record sheets. Keyboarding ability is needed to complete course requirements. Prerequisite: grade of C or better recommended for student to successfully continue with program.

MEDA123 Introduction to Pharmacology 3-0-3
Exposes students to the knowledge necessary for a basic understanding of the principles and practices of pharmacology. Focus is on current and common medications, sources of drugs, sources of drug information, classification of drugs, drug action, adverse affects, contraindications, administration of drugs, drug calculation, medico-legal responsibilities, and the Medical Assistant/Secretary's responsibilities in drug therapy. Simulated problems and case scenarios will be based upon actual clinical situations. Prerequisites: AH110, BIOL106, BIOL107.

MEDA124 Insurance for the Medical Office 4-0-4
This course is designed to provide the student with a comprehensive overview of the tasks and job requirements of the medical biller, specifically in the physician office practice setting. The course covers a wide array of skills and knowledge requirements the biller will need to be successful - from a legal perspective including patient confidentiality and filing legitimate claims, to the proper use of the CMS-1500 claim form, knowledge of medical terminology and usage of correct medical codes utilizing CPT, HCPCS, and ICD-9 manuals. Major insurance carriers are covered as well, including Medicare, Medicaid, Blue Cross, Worker's Compensation and various managed care plans. Prerequisite: AH110.

MEDA125 Clinical Laboratory Procedures I 2-6-4
This course is designed to provide the Medical Assistant with essential knowledge and skills that may be needed in a general practice medical office or clinic. Laboratory skills presented will include, but are not limited to: medical asepsis and infection control; patient preparation, assessment, and medical history taking; vital signs and anthropometric measurements; preparation and assisting in physical examinations; instrumentation, sanitation, disinfection and sterilization of instruments and equipment; assisting with minor surgical procedures; administration of EKGs, preparation, storage, and administration of medication; collection and analysis of microbiological specimens including hematology and urinalysis; diagnostic imaging; and medical office emergencies including CPR and airway obstruction. Prerequisites: grade of C or better in AH110 and BIOL106/107.

MEDA126 Medical Law and Ethics 3-0-3
This course explores a number of issues facing medical assistants on the job today. Why patients sue, how doctors' offices can protect themselves from litigation, informed consent, types of malpractice, and responsibility are some of the legal issues explored. Genetic engineering, sterilization, abortion, AIDS, and the allocation of health care resources are ethical issues to be discussed. The medical assistant's responsibilities concerning malpractice, patient consent, and litigation will also be reviewed.

MEDA127 Medical Transcription I Lab 0-3-1
This course is designed to introduce the student to transcribing medical reports and correspondence using the transcription equipment. Emphasis will be placed on proper grammar, spelling, word usage, and punctuation. In addition to striving for accuracy, speed development will also be stressed. Corequisites: BIOL106, BIOL107, MEDA123. Prerequisites: ADMN111, ADMN126, AH110.

MEDA218 Clinical Lab Procedures II 2-3-3
Students will refine their skill and gain competence in essential clinical laboratory skills that might be needed in a medical practice. Theory content will cover anatomy and physiology, and place emphasis on specific organs and body systems and their associated illnesses and disease entities. In addition, considerations will be taken for the physiological aspects of working with special populations. Skill performance lab will include but is not limited to the medical assistant's role in patient education, quality improvement and risk management, emergency medical procedures, common diagnostic procedures, instrumentation, minor office surgery, general patient assessment, phlebotomy, collection and preparation of micro-biological specimens, and the skills necessary in working with special populations. Skills learned in Clinical Lab Procedures I will be reinforced in order for the student to gain a higher level of proficiency and confidence in their abilities as medical assistants. Prerequisite: MEDA125 with a grade of “C” or better.

MEDA223 Medical Assistant Internship 0-12-4
This capstone course will allow students to receive supervised hands-on experience at off-site locations related to the medical assistant field. Certificate students may complete an internship during the summer semester following their first year. Degree students will be scheduled for internship during their last semester. All internships are unpaid positions and students must be up-to-date on all vaccinations and have completed the Hepatitis B series prior to going on internship. In addition, students must be covered by their own health care insurance and purchase liability/malpractice insurance available through the college. There are no evening or weekend internships. Consult with your Academic Advisor. Corequisite: MEDA225. Prerequisite: MEDA218 with a grade of "C" or better.

MEDA225 Internship Seminar 1-0-1
Students in the Medical Assistant Internship course will meet for a one-period seminar to review their internship progress and to discuss issues related to successful employment. Resumés, cover letters, interviewing techniques, and job-keeping skills are some of the topics included in this course. Corequisite: MEDA223.

MKTG125 Principles of Marketing 3-0-3
An introduction to basic concepts with primary application to public and non-profit organizations, national and global, including marketing objectives, strategies, segmentation and promotion.

MKTG135 Consumer Behavior 3-0-3
An in-depth analysis of the internal and external forces in the consumer decision making process as it relates to marketing. Areas of study include consumer reaction, personal selling, product positioning, brand loyalty and image management. Applications in non-profit and government areas also discussed.

MKTG205 International Marketing 3-0-3
Analyzes the decision-making process in marketing products internationally. Focuses on the design of international marketing strategies (identification of potential markets, and product, price, promotion and distribution decisions) within the constraints of a particular cultural, economic and political setting.
Prerequisite: MKTG125.

MKTG210 Advertising 3-0-3
This course will cover the history of advertising, roles of advertising, the advertising spiral, target marketing, the advertising agency, media services, and the advertiser's marketing/advertising operation. Also, basic media strategy using television, radio, newspapers, magazines, outdoor advertising, and direct response will also be covered. Prerequisite: MKTG125.

MKTG224 Sales and Sales Management 3-0-3
Allows students to develop personal selling skills through simulations, preparing and delivering sales messages/plans. Post-sales activities and team selling are also covered. Focus is on industrial product, high-tech and professional service marketing. DRM'S goal is direct communication with prospective customers creating an immediate response. Course emphasis is on databased marketing, telemarketing, direct mail and print/broadcast media settings for profit, non-profit and governmental areas.

NURS111 Nursing I 6-9-9
Students learn the roles of the Associate Degree Nurse as a provider and manager of care and a member of the discipline of nursing. Students develop beginning intellectual, interpersonal and psychomotor competencies to assess well clients and clients with common actual or possible health problems. The roles of the nurse, communication theory, life span development, ethical legal standards, and nursing process are basic concepts to the practice of nursing for the Associate Degree Nurse. Students are introduced to the concept that the person is a system in dynamic interaction with the internal and external environments. The eleven Functional Health Patterns organize the study of concepts common to a basic knowledge of the client's state of wellness and possible or actual health problems. The Learning Laboratory provides opportunities to practice nursing skills in simulated activities. Clinical Learning provides experiences to practice nursing by caring for well clients or clients with common basic health problems in the nursing home, structured perinatal settings and protected favorable environments. Corequisites: BIOL110, PSYC110.

NURS112 Nursing II 4-15-9
The student develops competence to provide and manage care for clients and their families in protected favorable environments. The student provides support and teaching to the client and family and direct care for the client. The scope of the course includes the Functional Health Patterns of Sexuality - Reproductive; Role - Relationships; Nutrition - Metabolic; Health Perception - Health Management; and Activity - Exercise (part I). Intellectual, interpersonal and psychomotor competencies are further developed. Needs of clients across the life span are emphasized with special focus on adult and children in childbearing families. The student will plan to care for the client/family by using the assessment database. Direct care will be provided to clients with common health problems. Laboratory Learning provides opportunities to practice more complex nursing skills in simulated activities. Clinical Learning experiences are provided for the student in perinatal, pediatric or psychiatric, and adult health care settings. Prerequisites: NURS111 and BIOL110 with a grade of "C" or better, Corequisite: BIOL120, PSYC210.

NURS200 Advanced Placement Seminar 3-0-3
This course provides a brief review of the following: students learn the roles of the Associate Degree Nurse as a provider and manager of care and member of the discipline of nursing. Students develop intellectual, interpersonal and psychomotor competencies to assess clients with common actual or possible alterations in health. The roles of the nurse, interpersonal relationship, life span development, ethical legal standards, and nursing process are basic concepts to the practice of nursing for the Associate Degree Nurse. The eleven Functional Health Patterns organize the study of concepts common to a basic knowledge of the client's state of wellness and possible or actual alterations in health. Assessment and review of first level clinical skills are covered in this course. The Learning Laboratory provides opportunities to practice nursing skills in simulated activities. Prerequisites: successful completion of Excelsior College: Nursing Concepts I, II and III Challenge Exams, first year courses, and permission of nursing faculty.

NURS211 Nursing III 4-15-9
The student develops competence to provide and manage care for clients and their families across the life span with common health problems. The student provides support and teaching to the client and family and direct care for the client. The scope of the course include the Functional Health Patterns: Activity - Exercise (part II); Elimination; Cognitive - Perceptual; Self - Perception; Coping - Stress Tolerance; and Value - Belief. Intellectual, interpersonal and psychomotor competencies are further developed. Laboratory Learning provides opportunities to practice increasingly complex nursing skills and basic group skills. Clinical Learning experiences are held in structured adult and psychiatric/Mental Health or Pediatrics/OB care settings. Prerequisites: NURS 112 and BIOL120 with a grade of "C" or better and completion of PSYC210. Corequisites: BIOL210, ENGL110.

NURS212 Nursing IV 3-18-9
The student develops increased competence and independence to provide and manage care for clients and families with common multisystem health problems across the life span. Nursing content includes the Functional Health Patterns of Coping - Stress; Activity - Exercise; Health Perception - Health Management; Self Perception; Role Relationships; and Cognitive - Perceptual. Additional course content includes leadership skills, health care policy and legislative advocacy. The student selects a Clinical Learning experience from predetermined, faculty-supervised structured health care settings. Laboratory Learning focuses on case presentations involving common, multisystem health problems, ethical decision making, and health care trends. Clinical learning experiences are provided for the student in advanced medical surgical nursing settings and community health. Prerequisites: NURS211 and BIOL210 with a grade of "C" or better.

PHIL110 Introduction to Philosophy 3-0-3
In this course, students will be introduced to the important ideas in Western philosophy. The course will emphasize the Greek origins of philosophy, the transformation of philosophy by Enlightenment thought in the 17th and 18th centuries, and the post-modern reaction to Enlightenment thought. The course will relate philosophical ideas to contemporary issues. (Fulfills Humanities requirement.)

PHIL215 World Religions 3-0-3
The course is an introduction to the major religions of the world. The origins, core beliefs, traditions and practices will be discussed. The purpose of the course is to understand and appreciate the various religious theories and practices by focusing on key texts, figures and ideas. The approach will strive to be descriptive, not prescriptive. Students will gain initial exposure to the structure and world-view of the religions covered. Christianity, Islam, Judaism, Hinduism and Buddhism will be covered. Additional religions may also be included based on instructor and student interest (African, Native American and new wave, Taoism, Confucianism, Baha'i, Zoroastrianism, Sikhism, etc.). (Fulfills Humanities requirement.)

PHIL240 Ethics 3-0-3
This course is designed to introduce students to general ethical theories, philosophies and decision-making models. The goal of the course is to relate theory to practice. Throughout the course, this general knowledge will be applied to specific problems and cases. Applications may include general ethical issues and more career-specific issues determined by student interest. (Fulfills Humanities requirement.)

PHYS100 Introductory Physics 2-3-3
This course is a conceptual introduction to the basic principles related to the composition of matter, mechanical properties of solids and fluids, forces and static equilibrium, potential and kinetic energy, power, and force transformers. Emphasis is placed on the development of problem solving techniques and on the appropriate application of those concepts to solve problems. Dimensional/unit analysis is stressed. Prerequisite: a grade of C- or better in MATH135 or equivalent.

PHYS110 Physical Science I 3-2-4
Physical Science I concentrates a “hands-on” exploration of the basic principles of the physical world. The course is designed to foster a better understanding of the environment that surrounds us and to serve as a foundation for further study in science. Concepts explored include mechanics, heat, temperature, electricity and magnetism, sound, and light. Prerequisite: MATH 080.

PHYS120 Physical Science II 3-2-4
A continuation of the "hands-on" exploration of the basic concepts of physical science initiated during the first term of Physical Science. Concepts explored include the atom, atomic models, and selected topics in chemistry, earth science, and astronomy. Success in the first semester is a prerequisite to the second semester. Success in both will enable the student to pursue advanced science courses of physics, chemistry, earth science, and astronomy. Prerequisite: PHYS110.

PHYS135 College Physics I 3-3-4
This course is an introduction to the basic principles of Newtonian mechanics with emphasis on the application of these principles when solving problems. Topics to be covered include kinematics of motion, vectors, Newton's laws, friction, work-energy, impulse-momentum for both translational and rotational motion, and the mechanical properties of matter. Dimensional (unit) analysis and critical thinking are stressed. Prerequisite: C- or better in MATH141 or equivalent.

PHYS136 College Physics II 3-3-4
This course is a continuation of the study of elementary physics that began in College Physics I. Special emphasis is placed on the principles introduced when solving problems. Topics to be investigated include the fundamentals and the applications of Coulomb's Law, electrical fields and potentials, capacitance, electric current and resistance, DC circuits, magnetism, electromagnetic induction, AC circuits, oscillating systems and waves, and geometric optics. Prerequisite/Corequisite: C- or better in MATH171 or equivalent.

POL110 American Government 3-0-3
A functional approach to the study of American government on the national, state, and local level. The structure, functions, operations and problems of the American system will be explored in lectures, discussions, readings and papers. (Fulfills Social Science requirement.)

POL210 Introduction to Political Science 3-0-3
This course is an introduction to the field of political science. Political ideologies, nationalism, cultures and institutions will be discussed, as well as public opinion, political parties, interest groups and voting behavior. Throughout the course, the concepts of power and legitimacy, elitism and pluralism will guide discussion. American and comparative examples will be utilized. (Fulfills Social Science requirement.)

PSYC105 Peer Tutoring 1-0-1
Students learn to diagnose problems of their peers and how to help resolve them. The problems may deal with academics, such as understanding mathematics or English. Students are trained and supervised by faculty and/or staff and gain valuable insight and teaching experience. Students also use what they learn in a lab experience by tutoring in the Academic Support Center.

PSYC110 Introduction to Psychology 3-0-3
An introduction to various areas of psychology, including scientific investigation, motivation, emotion, personality, psychological testing, behavioral deviation, perception, learning and human development. (Fulfills Social Science requirement.)

PSYC112 Learning and Behavior 3-0-3
This course discusses the history and principles of behaviorism and present a learning theory and teaching techniques based on positive behavioral principles. Presentation and discussion focuses on the ethical and client right issues of positive behavior change, and recent trends and techniques for applying learning principles in a variety of

settings. Prerequisite: PSYC110. (Fulfills Social Science requirement.)

PSYC118 Theories of Personality 3-0-3
This course introduces students to the various theoretical models explaining human behavior. Currently accepted and historically significant theories will be presented and students will participate in critical analysis of each theory. Application of currently accepted theories in such areas as assessment of personality and connections to adjustment issues will be discussed as well. Prerequisite: PSYC110 (Fulfills Social Science requirement.)

PSYC120 Leadership Development 3-0-3
A study of leadership and the skills manifest in effective leaders. Topics include articulating a vision, goal setting, decision making, managing time, team building, empowering others, initiating change, managing conflict, applying ethics, and serving as a leader. This course provides the opportunity for students to develop a personal leadership philosophy, as well as essential leadership skills, through study, observation, and application. Prerequisite: ENGL110. (Fulfills Social Science requirement.)

PSYC210 Human Growth and Development 3-0-3
A study of psychological implications for the growth and development of the human person with a specific emphasis on the physical, cognitive, social, emotional, and ethical dimensions during the prenatal period through later adulthood. A review of, and an introduction to, major theorists is presented on a continuing basis throughout the course. Prerequisite: PSYC110. (Fulfills Social Science requirement.)

PSYC215 Abnormal Psychology 3-0-3
This course develops an understanding of human behavior and the similarities and differences between normal and abnormal reactions to environmental stimuli. Prerequisite: PSYC110. (Fulfills Social Science requirement.)

PSYC220 Adult Development 4-0-4
This course offers a detailed discussion of adult development, including cognitive, social, and personality development, and other issues. A major focus of the course will be on the application of theories of typical development to the challenge of aging. Students will also be required to participate in 45 hours of community service focusing on the provision of support to individuals experiencing challenges related to their development through adulthood. Prerequisite: PSYC110. (Fulfills Social Science requirement.)

PSYC230 Educational Psychology 3-0-3
This course reviews the application of psychological principles to the educational environment. Theories of cognitive processes and development, learning, and social and moral development are discussed as they apply to learning and teaching. Issues involving assessment, classroom management, individual differences, and socioeconomic and developmental influences on learning are also presented. Application of theoretical perspectives to classroom teaching will be emphasized. Prerequisite: PSYC110. (Fulfills Social Science requirement.)

PSYC235 Health Psychology 3-0-3
This course focuses on health empowerment coping styles of resiliency and characteristics of invulnerability. It is designed to meet the needs of professionals, significant others and individuals themselves who are attempting to affect the quality of life outcomes of addiction, trauma, long-term stressors, and/or disease. This course brings awareness of factors and behavioral methods, which facilitate a resilient, thrive mode of quality of life that is very different in nature and practice from that of the coping style of psychosocial survival. Prerequisite: PSYC110. (Fulfills Social Science requirement.)

PSYC240 Research Methods in Behavioral Science 3-0-3
This course introduces students to the research process in psychology and other behavioral sciences. Theoretical discussion will focus on the need for scientific research, the ethical issues related to such research, and the application of research to daily life. The process of developing and investigating questions dealing with human behavior will be addressed. Specific research methods will be presented including collecting, summarizing, and interpreting data using both experimental and non-experimental designs. Students will participate in at least one psychological research activity to apply the concepts learned in class. (Fulfills Social Science requirement.)

SD100 Soil Mechanics 3-0-3
A course in New Hampshire soils and their relationship to septic systems. Emphasis will focus on the evaluation, soil properties and soil-water correlation. The course will consist of classroom lectures and field trips. The course is also a preparation for the State of New Hampshire Licensing exam for installers and designers.

SD110 System Installation 3-0-3
This course studies the regulations set forth by the State of NH for the installation of individual residential sewage disposal systems. A working knowledge of septic prints, as well as the installation and layout of septic systems with references to soil types and septic repairs. Classroom and field studies will be involved.

SD150 Septic System Surveying 3-0-3
This course introduces the fundamental principles, practices, procedures, and calculations involved in the practice of land surveying for septic systems. Prerequisite: knowledge of Algebra.

SD200 Intro to System Design 3-0-3
Designed to introduce the regulations of the State of NH for the design of individual residential sewage disposal systems including innovative methods as well as the basic septic system. Prerequisite: SD100.

SOC105 Community Service Learning 2-3-3
This course will focus on community service as an avenue for learning. It will provide a basic understanding of the needs of a community, the history of community service in this country and what services are presently available. The students will discuss and initiate their own project or projects that will center around service for their community. This course will allow the students to integrate with their community, gain an understanding of the importance and effects of service, and develop a personal philosophy on community service. Reflection, discussion, debriefing, personal journals, and portfolios will be an integral part of this course. (Fulfills Social Science requirement.)

SOC109 Contemporary Social Problems 3-0-3
A systematic analysis of such problems as delinquency and crime, racial and ethnic minorities, and propaganda and public opinion are included. (Fulfills Social Science requirement.)

SOC110 Sociology 3-0-3
An introduction to the concepts and principles of sociology. The basic social units of our society and how they interact are studied. An exploration of the causes of social change as they are related to population will also be considered. (Fulfills Social Science requirement.)

SOC120 Society and Technological Change 3-0-3
A study of the relationship between technology and humankind and the attempt to link, decipher and evaluate technological systems to all human life and to prove that all of them are interrelated. (Fulfills Social Science requirement.)

SOC 125 American Justice System 3-0-3
This course covers the components of the justice system in American society. Although civil law will be discussed, the emphasis will be on the criminal justice system.The influence and pressures of changing social, political, technological and economic factors on the agencies of justice will be studied. Much of the focus will compare ideals with realities of the system. Law enforcement, the courts and correctional aspects will be examined. Prerequisite: ENGL110. (Fulfills Social Science requirement.)

SOC135 Women's Studies 3-0-3
The emphasis of the course focuses on an introduction to the development, education, and work of women. Within the framework, Workforce 2000, ethics and self-esteem are discussed. Gender discrimination and changing roles will be examined through the context of the major themes. (Fulfills Social Science requirement.)

SOC210 Marriage and the Family 3-0-3
This course will provide an examination of marriage and the family from a social/psychological point of view. Prerequisite: SOC109 or SOC110. (Fulfills Social Science requirement.)

SOC245 Disability Studies 3-0-3
This course is designed to introduce students to the range, issues, and effects of various disabilities across the life span and within the social world. Students will become familiar with different types of disabilities, to include intellectual, behavioral, physical, emotional, cognitive, communicative and sensory, and begin to understand how these different disabilities impact the lives of individuals and the persons with whom they have relationships at each different life stage. Attention will be drawn to the effects of gender, race and class on the personal and social experience of disability. Focus will also be on broader social issues affecting disability, to include law, economics and the history of disability in the United States and Western culture. (Fulfills Social Science requirement.)

SOC250 Multi Ethnic Cross-Cultural Relations 3-0-3
This course is designed to introduce students to ethnic and cross-cultural differences in the norms, values, perceptions, and behaviors as they impact personal lives in interpersonal skills. Introducing students to these differences will facilitate communication and cooperation within relationships where the participants come from different backgrounds and/or ethnic cultures. This course is appropriate and will serve as an elective for professionals and paraprofessionals in business, human services, nursing, early childhood education, gerontology and criminal justice. (Fulfills Social Science requirement.)

SPAN110 Spanish I 3-2-4
A fully integrated, introductory Spanish course for beginning Spanish students, with little or no prior knowledge of Spanish. It is directed for students whose learning objectives and needs are in any of the following categories: for Spanish language students, for business purposes as well as for travelers. The emphasis is to develop a proficiency in basic communicative skills concentrating on the dynamic application of the living language taught through dialogue, phonetics, and vocabulary. A strong grammar foundation and other basic language skills are taught through actual phrases and sentences helping the student develop an instinctive sense of the correct usage. Language laboratory activities are part of the course, reinforcing class content. These objectives will be achieved through the following approaches: speaking, listening, reading, writing, and cultural appreciation. (Fulfills Foreign Language requirement.)

SPAN111 Spanish Conversational Practicum I 0-2-1
A comprehensive conversational practicum designed for Spanish students whose learning objectives and needs are in reinforcing and developing the basic conversational and auditory skills aimed at increasing basic oral proficiency. It is directed for students who have had the equivalent of one year of high school Spanish or one semester of college Spanish. The emphasis is to develop and increase proficiency in basic communicative skills, review of basic structures, and reinforce reading and writing in a laboratory setting. Through a variety of meaningful and real situations, students will develop oral fluency. This practicum will be presented predominantly in Spanish. Prerequisite: SPAN110 with a passing grade of C or better, or a qualifying score on the Spanish placement test, or instructor consent.

SPAN120 Spanish II 3-2-4
A continuation of the introductory Spanish course. For students who have had the equivalent of one year of high school Spanish or one semester of college Spanish. The course is designed for Spanish students whose learning objectives and needs are in any of the following categories: for Spanish language students, for business purposes, as well as for travelers. The emphasis is to consolidate and reinforce the language skills acquired in Spanish I, or equivalent, and to continue building communicative skills and cultural competency. The course continues to offer a comprehensive review of basic first term grammar structures, while developing proficiency and advancement in communicative skills concentrating on the dynamic application of the living language taught through dialogue, phonetics, and vocabulary. A strong grammar foundation and other essential language skills are taught through actual phrases and sentences, helping the student develop an instinctive sense of the correct usage. Language laboratory activities are part of the course reinforcing class content. These objectives will be achieved through the following approaches: speaking, listening, reading, writing, and culture. Prerequisite: SPAN110 or equivalent. (Fulfills Foreign Language requirement.)

SPAN121 Spanish Conversational Practicum II 0-2-1
A comprehensive conversational practicum designed for Spanish students whose learning objectives and needs are reinforcing and developing the basic conversational and auditory skills aimed at increasing basic oral proficiency. Directed for students who have had the equivalent of two years of high school Spanish or two semesters of college Spanish. The emphasis is to develop and increase proficiency in basic communicative skills, review of basic structures, and reinforce reading and writing in a laboratory setting. Through a variety of meaningful and real situations, students will develop oral fluency. Conducted in Spanish. Prerequisite: SPAN120 with a passing grade of C or better, or a qualifying score on the Spanish placement test, or instructor consent.

WELD111 Gas and Arc Welding Lab 0-12-4
At the successful completion of this course, each student will be able to: (1) safely use oxy-fuel cutting equipment to cut shapes and prepare material for welding; (2) safely use oxy-fuel welding equipment to weld various mild steel joints in the four welding positions; (3) safely use arc welding equipment to weld various mild steel joints in the four welding positions; (4) safely use oxy-fuel equipment for braze welding, brazing, soldering, and fusion welding of the most widely used types of metals.

WELD113 Technical Blueprint Reading 0-3-1
This course serves as an introduction to the basic concepts and practices of technical drawing and blueprint reading. The proper use of drawing equipment, linework and lettering, construction and interpretation of multi-view orthographic drawings, sectional views and auxiliary views will be covered. Other topics of discussion will include dimensioning and tolerances, sketching and structural steel shapes. Throughout the course emphasis will be placed on using the drawing skills learned to maintain a high quality of workmanship in the field.

WELD114 Related Electricity 1-3-2
This course is an introduction to welding electricity. Its focus will be on many different welding power sources used in the welding field. The installation and maintenance of the power sources and their related auxiliary equipment, along with troubleshooting techniques and selection, will be covered.

WELD121 MIG and TIG Welding Laboratory 0-12-4
This course instructs students in the safe, hands-on utilization of the GTAW, GMAW, FCAW, SAW and PAW processes as they are used in industry. The GTAW process will be utilized to weld mild steel, stainless steel, aluminum, copper alloys and titanium. The GMAW process will be utilized to weld mild steel, stainless steel and aluminum. Resistance welding, plastic welding and thermal spray equipment will also be used. Prerequisites: WELD111, WELD112, WELD114.

WELD122 MIG and TIG Welding Theory 3-0-3
This course covers the theory behind the gas-shielded arc welding processes, GMAW and GTAW. Principles of operation, filler materials and gas selection will be discussed in great detail. The modern welding processes, which fall under the following categories, will also be

examined: Submerged Arc Welding, Plasma Arc Welding, Solid State Welding, Resistance Welding, Electroslag Welding, Stud Welding, the high energy beam processes, Thermal Spraying and other related welding processes. Prerequisites: WELD112, WELD114.

WELD125 Manufacturing and Repair Techniques 0-3-1
An introduction to the safety and fundamental use of machine tools in both manufacturing and repair environments. Processes covered will include turning, milling, drilling, broaching, abrasive machining and precision measurement. The laboratory session will apply the techniques studied by using machine tools to manufacture welding fixtures and dimensionally restore parts, which were repaired by welding. Corequisite: WELD121.

WELD180 Basic Arc and Gas Welding 1-3-2
This course is designed to provide the student with a technical understanding of shielded metal arc welding, arc welding power supplies, electrode classifications, oxy-fuel welding and cutting, torch brazing, joint types, preparation and fit-up, and welding safety. It also provides training to develop the skills necessary to make quality fillet and square groove welds in the flat position on various thickness of mild steel, using the (SMAW), (OFW), and (TB) processes.

WELD181 Intermediate Arc and Gas Welding 1-3-2
This course is designed to build on the knowledge and skill acquired in Basic Arc and Gas (WELD180). It provides the necessary training to make multiple-pass fillet and square groove welds in all positions on mild steel plate using the (SMAW) process. It also provides training to develop the skill necessary to make fillet and square groove welds in the flat, horizontal and vertical positions on mild steel, using the (OFW) process. Prerequisite: WELD180.

WELD182 Welder Qualification and Testing 1-3-2
This course is designed to provide the student with an understanding of welder qualification in accordance with the American Welding Society D1.1 Structural Welding Code. It also provides training to develop the skill necessary to make code-quality, multiple-pass groove welds with backing on 3/8" mild steel plate in all positions using E7018 electrodes. This course prepares the student for welder qualification testing used throughout the welding industry. Prerequisites: WELD180, WELD181.

WELD183 Advanced (SMAW) Plate and Pipe Welding 1-3-2
This course is designed for the experienced welder. It provides the necessary training to make multiple-pass, open-root v-groove welds on 3/8" mild steel plate and 4" - 6" mild steel pipe in all positions, using E6010 and E7018 electrodes. It also provides training to develop the skill necessary for mechanized oxy-fuel cutting as well as carbon arc cutting and gouging. Prerequisites: WELD180, WELD181 and WELD 182.

WELD184 Gas Tungsten Arc Welding (TIG) 1-3-2
This course is designed to provide the student with a technical understanding of gas tungsten arc welding, equipment adjustments, tungsten electrodes, filler metals, shielding gases, plasma arc cutting, and welding safety. It also provides training to develop the skill necessary to make quality welds on 14 and 11-gauge mild steel, stainless steel, and aluminum, in the flat, horizontal and vertical positions. This course will prepare the student for production and maintenance welding used in business and industry. Prerequisite: WELD180.

WELD185 Gas Metal Arc Welding (MIG) 1-3-2
This course is designed to provide the student with a technical understanding of gas metal arc welding, flux-cored arc welding, equipment adjustments, metal transfer modes, filler metals, shielding gases, and welding safety. It also provides training to develop the skill necessary to make quality (GMAW) and (FCAW) welds in various positions on mild steel, stainless steel and aluminum, using short circuit, globular and spray transfer modes. This course will illustrate problems associated with industrial situations and provide corrective information. Prerequisite: WELD180.

WELD186 Blueprint Reading for Welders 3-0-3
This course is an introduction to print reading. It covers the different types of lines, dimensions, and notes used to make sketches and prints, the various types of views and their relationship to each other, the welding symbols, and inspection and testing symbols for all welding processes. Students will develop a practical understanding of the blueprint reading knowledge required by the welding industry for employment.

WELD211 Structural Code Welding Lab 0-12-4
This course will instruct students in the hands-on practice of Shielded Metal Arc Welding as it is applied to the American Welding Society Structural Steel Code D1.1. Students will perform welder qualification tests in all positions and subject the test coupons to the required forms of mechanical testing. Throughout the course, the role of the Welding Inspector will be covered as well as the documentation required for both welder and weld-procedure qualification. Students will receive experience in the inspection role in order to become familiarized with weld defects and discontinuities. Prerequisites: WELD111, WELD112, WELD121, WELD122, WELD125.

WELD212 Code Welding Theory 3-0-3
This course will cover proper industrial quality control procedures with respect to welder qualification, welding procedure qualifications, materials control and quality assurance organization. These concepts will then be utilized in discussion of three major welding codes and specifications: A.W.S.D1.1, A.S.M.E. boiler and pressure vessel code, and A.P.I. 1104, which covers cross country pipelines. The principles and practices of common forms of non-destructive testing will be covered with emphasis placed upon weld defects and discontinuities. Several methods of safely performing leak testing will be covered. Weldability of the steels and non-ferrous metals will also be discussed, as well as the weldability of dissimilar metals. Prerequisites: WELD111, WELD112, WELD121, WELD122, WELD125.

WELD213 Metallurgy 2-2-3
This course is an introduction to materials technology including instruction study assignments and laboratory exercises. The student will gain a knowledge of: (1) materials structures; (2) heat treatment processes; (3) composition of ferrous and non ferrous alloys; (4) microscopic examination of metals and the effects of heat treatments and welding.

WELD220 Fabrication Techniques and Estimating 2-2-3
This course deals with the problems encountered when welding different types of steel and non-ferrous metals in a production shop: the use of arc motion and work motion equipment and robotics in the modern welding factory; the importance of welding procedures and the use of fixtures; and the estimating of typical welding costs (materials, cutting, welding, consumables and overhead) used to price out a job.

WELD221 Pipe Code Welding 0-12-4
The student will use arc welding equipment to make multiple pass and 100% penetration welds in the 1G, 2G, 3G, and 4G positions on mild steel plate with electrodes from the fast freeze, fill freeze and fast fill groups; safely utilize arc welding equipment to produce welds on 4-inch and 6-inch standard steel pipe in the 1G, 2G, 5G, 6G positions, plus various pipe assemblies.

WELD223 Materials and Testing 2-2-3
This course will introduce the student to applied statics and strength of materials in relation to weldments, weld testing, material testing, pressure vessels, beam selection and related rigging. Laboratory projects will involve the use of non-destructive and destructive testing equipment to determine the forces acting upon rigid bodies under a load, as well as the mechanical properties of materials. Prerequisites: MATH111, MATH135, WELD213. Corequisite: PHYS100.

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STATE OF NEW HAMPSHIRE

Governor
John Lynch

The Executive Council
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2 Peter J. Spaulding
3 Ruth L. Griffin
4 Raymond J. Wieczorek
5 Debora Pignatelli

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Dr. William Simonton, Commissioner

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David C. Paquette
Walter R. Peterson
Connie Roy-Czyzowski
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Timothy Welch
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Katherine Eneguess
Lucille Jordan
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Darlene Miller
Sean O'Kane
William Simonton
Commissioner Lyonel Tracey
Thomas Wisbey

College Advisory Committee

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Superintendent, Litchfield School District

Kathy Cook
Greater Manchester Chamber of Commerce

Doug Dean, CEO
Elliot Hospital

Chris Drobat
Lavallee/Brensinger Architects

Michael Dunican, President
North American Equipment Upfitters

Dr. Richard Gustafson, President Emeritus
Southern New Hampshire University

Joseph McQuaid, Publisher
Union Leader Corporation

Gustavo Moral, President
Independent Services Network, Inc.

Ronald J. Rioux, President
St. Mary's Bank

John Rist, Principal
Manchester Central High School

Kathy White, Principal
Manchester School of Technology

Governor John Lynch accepts an original pen and ink drawing by NHCTC Graphic Design student Anastasia Petrova at the 60th commencement ceremony, May 24, 2006.

Personnel

Date of appointment appears in parentheses.

ADMINISTRATION

Darlene Miller
President
B.A. Oakland University;
M.S. Rensselaer Polytechnic Institute;
Ed.D., University of Massachusetts (2006)

Paula Amato CMA
Chief Financial Officer/
Director of Support Services
B.S., New Hampshire College
M.B.A. Plymouth State University (2006)

Mary R. Scerra
Vice President of Academic Affairs/
Chief Campus Officer
B.S., Gorham State College;
M.Ed., Univ. of Maine;
Ed.D., Boston University (2002)

Nan Travers
Vice President of Student
and Community Services
B.S., Ramapo State College of NJ.
M.Ed., Johnson State College,
PhD., University of Connecticut (2003)

ACADEMIC AFFAIRS

Joan Acorace
Associate Vice President
of Academic Affairs
B.S. and M.S., Syracuse University (1988)

Patricia Bedford
Regional TRIO Director
M.A., Antioch University, B.A. University of California, Santa Cruz (2001)

Terry Chisolm
TRIO Counselor

Mary Ellen Bradley
Derry Campus Site Coordinator
A.A., Hesser College; A.A. Merrimack Valley College; B.A., University of New Hampshire (2005)

Nicole Desruisseaux
Allied Health Faculty Secretary
A.A.S., NH Community Technical College (2002)

David B. Flint
Director - Center for Teaching & Learning
B.A., Boston College; M.A. and Ph.D., University of New Hampshire (1989)

Louise Fulling
Special Projects Coordinator
A.S., Endicott College (2005)

Raymond Godin
Associate Vice President
of Academic Affairs
A.A., B.S., Franklin Pierce College;
M.S., NH College (1999)

Judi Hull
Academic Affairs Secretary
A.S., New Hampshire Community Technical College Claremont (2005)

Joan Laroche
Academic Affairs Part Time Secretary, (2005)

Peggy Lindahl
Weekend Program Assistant
A.A.S., New Hampshire Community Technical College Manchester, (2005)

Almila Marrero
Academic Affairs Secretary
Certificate in Secretary, High School Republica de Columbia (2005)

Leslie Paul
Service Learning Coordinator
B.A., Anna Maria College; M.Ed., Notre Dame College (2004)

Maureen Nagle
Non-Traditional Initiative Coordinator
B.A. and MPA, UNH (2005)

Eva Rugoletti
Academic Affairs Part Time Evening Secretary
A.A., Quinsigamond Community College (2003)

Margot Schrader
Secretary/TRIO
A.A.S., NHCTC/Manchester (2002)

Elizabeth Stull
Running Start Coordinator
B.S., Northeastern; M.B.A., Univ. of Santa Clara (2000)

Lorraine Tillis
Executive Secretary
B.A., Univ. of North Dakota (2000)

Candace Trombly
Weekend Program Assistant
A.S., Colby Sawyer College; B.S. candidate, Southern New Hampshire Univ. (2002)

Jere Turner
Director of Institutional Research
A.S., Spring Garden College; B.A., Glassboro State College; M.Ed., Northeastern Univ.; Ph.D., Boston College (1984)

BUSINESS OFFICE

Michael Allen
Stock Control Clerk
B.S., Franklin Pierce College (1999)

Carol Despathy
Accountant I
A.A.S., NHCTC/M (1997)

Paula Hennessey
Senior Accounting Technician
A.A.S., NHCTC/Stratham (1995)

Barbara Hunt
Cashier/Accounting Assistant (2004)

vacant
Cashier

Kristen Patten
Accounting Technician (2000)

CENTER FOR ACADEMIC PLANNING AND SUPPORT

Marion Knedler
Director
MSSW, Springfield College (1996)

Donna Dooley
Counselor
B.S., Bridgewater State College; M.A., Rivier College (2002)

Shawn Flaherty
IT Specialist
A.A., NHCTC/Stratham (2004)

Ann Friedman
Counselor
B.A., M.A., State Univ. of New York-Albany (2002)

Margaret Hamm
Counselor (1993)
B.S., Univ. of Connecticut (1993)

Maria Como
Secretary (2005)

Regina Moore
CAPS Learning Specialist
A.A., NHCTC/Manchester (2004)

Kevin Wason
Coordinator of Disabilities Services
B.A., Wright State Univ.; M.A., Univ. of New Hampshire (2001)

LEARNING RESOURCES CENTER

Mary Marks
Director of Learning Resources
B.A., North Carolina Central University, M.L.S., Drexel University (1997)

Vandana Dhakar
Librarian
M.A., M.L.I.S, University of Delhi, India (1997)

Mark McShane
Library Technician
B.A., University of New Hampshire (2000)

Rachel Pichette
Library Assistant (1999)

MAINTENANCE

Michael Coons
Plant Maintenance Engineer
Certificate-Building Maintenance, NHCTC/Manchester, Building Operations Certificate (1989)

Vacant
Maintenance Mechanic

Man Lee
Building Services Worker (2001)

Timothy McGinnin
Maintenance Foreman (2002)

Vacant
Building Services Supervisor

Phil Roy
Building Services Worker (2006)

vacant
Laborer

PRESIDENT'S OFFICE

vacant
Administrative Assistant to the President/Human Resources

Dolores LeBlanc
Telephone Operator (2003)

Grace Pardue
Telephone Operator (2004)

Janice Wells
Telephone Operator/Receptionist (1987)

STUDENT and COMMUNITY SERVICES

Janet M. Phelps
Assoc. VP Community & Corporate Education/Marketing
B.S., Boston University (2001)

Melinda Huber
Graphic Designer
B.A., Notre Dame College; Three Year Diploma, Butera School of Art-Boston (2006)

Lisa Desrosiers
Executive Secretary to Vice President of Student and Community Services
A.A.S., NHTC/Manchester (1994)

ADMISSIONS

Mack Bean
Admissions Counselor
M.B.A., Franklin Pierce College
B.S., Greenville College (2003)

Paul Dlubac
Recruiter
A.S. New Hampshire Technical Institute (2004)

Sharon Hancock
Secretary, Admissions
A.A. Newbury College (2004)

Jacqueline Poirier
Admissions Coordinator
B.S. Ed., Keene State College (2003)

Gayle Wencis
Career and Education Specialist
One-Stop Center-Manchester/Salem
B.S., Northeastern University (2001)

Michelle Fullam
Secretary
A.S., NHCTC-Manchester (2003)

Sandy Rogers
Secretary (2005)

STUDENT LIFE

Aileen Clay
Director of Student Life
B.S. and M.Ed., Springfield College (1992)

Jennifer Kent
Fitness Center Teaching Assistant
A.S., NHCTC-Manchester (2006)

Thomas Cormier
Fitness Center Coordinator
A.S., NHCTC/Manchester (2002)

REGISTRAR

Evelyn R. Perron
Registrar
A.B.S., Hesser College (1975)

Linda Lockhart
Secretary, Registrar's Office
B.A. University of New Hampshire (2000)

Katherine Stewart
Assistant Registrar (1999)
A.A., North Shore Community College; B.S. Franklin Pierce College (1999)

Charlene Tremaine
Secretary, Registrar's Office (2000)

FINANCIAL AID

vacant
Financial Aid Officer

Patricia LaMontagne
Financial Aid Officer
B.S., University of New Hampshire (1997)

Susan Nallan
Program Assistant/Financial Aid (2005)

INFORMATION TECHNOLOGY

John Edwards
Technical Support Specialist II **(1997)**

Robert Platt
Technical Support Specialist I **(1997)**

CENTER FOR TRAINING AND BUSINESS DEVELOPMENT

vacant
Director

CindyLou McInnis
Project Manager (1994)

DEPARTMENT OF ALLIED HEALTH SCIENCES

Cindy J. Feldhousen
Department Chair/Professor, Medical Assistant
B.S. & M.S., New Hampshire College (1986)

Dorene Bourque
Professor, Exercise Science
B.S., Plymouth State College; M.S., Univ. of Montana (2000)

Karen Kobzik
Assistant Professor, Medical Assistant
A.D.N., Northern Essex Community College; B.S.N., University of New Hampshire (2005)

ADJUNCT FACULTY

Judy Blaney, MT (HEW)
Phlebotomy
B.S., Biology, Suffolk Univ.; MT, Clinical Sciences, Univ. of Massachusetts-Lowell

Judith Fobes, CCS
Medical Coding
B.S., University of NH

Enid Lawrence, CMT
Medical Assistant
A.S., New Hampshire Community Technical College

Stephanie Payeur, MT (ASCP)
Medical Assistant
B.S., University of New Hampshire

Linda Powers, LCHHC, MA, RN
Medical Law & Ethics
M.A., Notre Dame College; B.S., CLL, Univ. of New Hampshire

Christopher Rolon
Exercise Science
B.S. Keene State Univ.; M.S., Univ. of Massachusetts-Lowell

Carol Sipe
Medical Assistant
B.A., University of New Hampshire

Jan Wyatt
Medical Assistant
B.S., Florida International University, M.B.A., Southern New Hampshire University

DEPARTMENT OF AUTOMOTIVE TECHNOLOGIES

Marc Bellerose
Department Chair, Manchester Campus
Professor, Automotive Technology
A.S., NHVTC/Manchester
ASE Master Certified (1993)

Robert Lott
Professor, Automotive Technology
B.S., New York Institute of Technology
ASE Master Certified (1996)

ADJUNCT FACULTY

Francis Horne
Automotive Technology
A.S., NHTC/Manchester; ASE Master Certified

Peter Kaufman
Automotive Technology
B.S., Western Michigan University;
ASE Master Certified

DEPARTMENT OF BUSINESS STUDIES

Micheline West, CPA, CMA
Department Chair/Professor,
Accounting/Finance
B.S., Southern New Hampshire Univ.; MBA with Advanced Certificate in Finance, Southern New Hampshire University (2002)

David Coeyman
Associate Professor, Marketing
B.A., Montclair State Univ.
M.P.A., Syracuse University (2004)

Kathleen Hoben
Professor, Management
B.S., Plymouth State College; M.B.A., New Hampshire College (1989)

ADJUNCT FACULTY

Mack Bean
Business Studies
M.B.A., Franklin Pierce College

Ronald Budway
Accounting /Finance
M.B.A., Southern New Hampshire Univ.

Alan Dobrowolski
Business Studies
M.B.A., Embry-Riddle Aeronautical University

Marie Dokoupil
Business Studies
M.B.A., Southern New Hampshire

Melissa Economou
Administrative Professional
M.S. Southern New Hampshire University

Peter Hosker, CPA
Accounting
M.S., Bentley College

Ann LaForce
Administrative Professional
B.ED, Plymouth State College

Michael O'Brien, CPA
Accounting
B.S., Southern NH Univ.; M.B.A.
Southern New Hampshire University

Susan Merrill Paul, EA
Accounting/Finance M.B.A.,
Southern New Hampshire University

Paul Puzzo, CPA
Accounting/Finance
M.S., University of Massachusetts, Amherst

James Quay
Business Studies
J.D., Emory University School of Law

DEPARTMENT OF COMMERCIAL DESIGN, ILLUSTRATION AND APPLIED ARTS

Joanne Jagodowski
Department Chair, Assistant Professor
Commercial Design and Illustration
B.S., Westfield State College (2002)

Rita Pellerin White
Professor
Commercial Design and Illustration
B.A., Framingham State College; M.S., Worcester State College (1994)

ADJUNCT FACULTY

Melinda Huber
Graphic Design and Illustration
B.A., Notre Dame College; Three Year Diploma, Butera School of Art-Boston

Shelley Husak
Interior Design Certificate, NHCTC/Manchester

Kathleen King
Interior Design Certificate
B.S., Drexel Univ.; M.E., Rhode Island College; M.S. Drexel Univ.

DEPARTMENT OF COMPUTER TECHNOLOGIES

Ed Cauthorn
Assistant Professor, Computer Technologies
B.S., Univ. of Maryland (2002)

Edward T. Ely
Professor, Computer Technologies
A.A.S., NHCTC/ Claremont; B.S.M.E., Univ. of Lowell (1989)

Robert Jarmak
Associate Professor, Computer Technologies
B.S., Bates College; M.S. Thomas College (2001)

James Pelkey
Professor, Computer Technologies
B.S. Univ. of New Hampshire
M.B.A., Northeastern Univ. (2000)

ADJUNCT FACULTY

Michael Haskins
A.A.S., Industrial Electricity, NHVTC; B.S., New Hampshire College

Francis Ingram
Computer Technologies
M.S., Univ. of Connecticut

Peter LaMonica
Computer Technologies
B.S.B.A., University of Phoenix

DEPARTMENT OF CONSTRUCTION TECHNOLOGIES

David P. Pichette
Department Chair/Professor
Air Conditioning and Ventilation
A.A.S., NHCTC/Manchester (1980)

David M. Fischer
Professor, Architectural Drafting, Building Construction
A.A.S., NHVTC/Manchester; B.S., Vocational Education, B.S. Industrial Arts, Keene State College (1984)

Brian Hand
Building Construction
A.A.S. NHCTC/Manchester; B.S., Kansas State Univ.

Alan R. Little
Professor, Heating
A.A.S., NHVTC, Manchester; B.A., Adelphi University (1984)

Dana Mosher
Professor, Building Construction
B.S., Univ. of Massachusetts (1983)

Jack E. Paige
Professor, Welding
A.A.S., NHVTC/Manchester;
B.S., New Hampshire College (1981)

Paul Plourde
Professor, Welding
Welding Certificate, NHVTC/Manchester;
A.S.M.E.T., NH Technical Institute at Concord (1988)

ADJUNCT FACULTY

Brian Fulling
HVAC, A.A.S., NHCTC Manchester

John Garrett
HVAC

Paul Gunther
Welding for the Artist
Certificate in Welding, NHCTC/Manchester;
A.A.S., Academy of Aeronautics, NY

Anthony Hanna
Welding Technology
B.S., Industrial Education, Keene State College; M.Ed., Notre Dame College; AWS Certified Welder D1.1

Steven Komisarek
Building Construction
A.A.S. in Building Construction Technology, NHCTC/Manchester

Bruce McKenna
Related Electricty
Certified Master Electrician

Timothy Oglesby
Building Construction
A.A.S. in Building Construction Technology, NHCTC/Manchester

Michael Smith
Welding Technology
A.A.S., NHVTC/Manchester

Robert R. Sullivan
Massachusetts Certified Teacher of Welding & Metal Fabrication, Rhode Island - Journeyman Welder, Certified O.S.H.A. Trainer

Robert Zielinski
Building Construction

EDUCATION and BEHAVIORAL STUDIES

Jan Caron
Department Chair/Professor
Early Childhood Education B.S. and M.S., Univ. of New Hampshire (1991)

Laura Bilodeau
Professor, Human Services
B.A. and M.A., Springfield College (2002)

Laurie Westcott
Associate Professor, Early Childhood Education B.S., Penn State Univ.; M.Ed., Temple Univ. (1998)

ADJUNCT FACULTY

Shelley Duquette
Early Childhood Education
B.A., Notre Dame College

Susan Foley
Early Childhood Education
B.A. Early Childhood Education, Rivier College; M.Ed., Rivier College

DEPARTMENT OF LIBERAL ARTS

Jean Clouatre,
Liberal Arts Department Coordinator
Professor, History
B.A. and M.A., Rivier College; M.A., Anna Maria College (2000)

ADJUNCT FACULTY

Peggy Lindahl
College Success Seminar
A.A.S., New Hampshire Community Technical College Manchester

Jamie Stinnett
College Success Seminar Coordinator
B.A., University of Oregon; Ed. M., Harvard Graduate School of Education

DEPARTMENT OF LIBERAL ARTS/English, English as a Second Language (ENGL, ESL)

Diane Hebert
Department Chair/Professor English
B.A., University of New Hampshire; M.A. Univ. of Massachusetts (2000)

John Achorn
Assoc. Professor, English
B.A., Dartmouth College; M.A., Univ. of New Hampshire; Ph.D., Univ. of Toronto (2004)

Anthe Day
Professor, English as a Second Language
B.S., University of New Hampshire, M.Ed., Notre Dame College (1997)

Jane O'Neil
Assoc. Professor, English
B.S. Castleton State College; M.A. Ed. Castleton State College (2003)

ADJUNCT FACULTY

Margarita Curtis
English & ESL
Diploma of an English Language Teacher; M.A., Pyatigorsk State Pedagogical Institute of Foreign Languages

George Fodor
English
B.A., Edinboro State University, M.A. Youngstown State University

Christina Hitchcock
English
B.A. and M.A., University of New Hampshire

Kathleen Hennessy
English
B.A., University of New Hampshire; M.A., California State University

Joseph Massa
English
B.A., M.A., Northeastern University

Brian McNabb
English
B.A., Rivier College; M.S. University of New Hampshire

Jamie Stinnett
English
B.A., University of Oregon; Ed. M., Harvard Graduate School of Education

DEPARTMENT OF LIBERAL ARTS/Foreign Language/ Humanities/Fine Arts (AMER, ARTS, ASL, FREN, GERM, HUMA,SPAN)

María Sotelo Mann
Department Chair
Associate Professor, Spanish
A.A. El Camino College; B.A., California State Univ., Long Beach, M.A., Middlebury College (2001)

Eugene Rice
Professor, Humanities
B.A., St. Anselm College; M.A., New York Univ. (1983)

ADJUNCT FACULTY

Kenneth Arndt
World Religions
M.A., University of New Hampshire; ThM and DMin, Gordon-Conwell Theological Seminary

Michelle V. Castell
Spanish and French
B.A., Simmons College; Ed.M., Rivier College

Marcia Gardner
Fine Arts
B.F.A. and B.S., Univ. of New Hampshire

Benjamin Hampton
History, Humanities
B.A., Univ. of Maine, M.Ed., Keene State College

Kevin Harkins
Photography
Art Institute of Boston

Ann Jones
American Sign Language
A.A., College of Lifelong Learning

Laura L. Klein
Photography
B.A., The Art Institute of Boston at Lesley University

Marion Knedler
Ethics
M.S.S.W., Springfield College

Darlene Olivo
Humanities
A.A., Rockland Community College; B.A. and ; M.F.A., Goddard College

Andreas Reif
Foreign Language & Humanities
B.A., University of Maryland; Masters of Divinity, Gordon-Conwell Theological Seminary

William Turner
Drawing
A.A.S., NHCTC/Manchester

DEPARTMENT OF LIBERAL ARTS/ Math & Science (BIOL, CHEM, ESCI, MATH, PHYS)

Cecile Dolan
Department Chair
Assistant Professor, Biological Sciences
B.A., M.Ed., Notre Dame College (2003)

Ruby Fogg
Professor, Biological Sciences
B.A., M.A and MAT, Binghamton Univ. (1996)

Lafayette J. Harbison
Professor, Math and Physics
B.S., New York Institute of Technology; M.Ed., Plymouth State College (1990)

Jane Lahaye
Associate Professor, Biological Sciences
B.S. Biology, Univ. of Maine; M.S. Biological Sciences and M.S. Computer Sciences, Univ. of Lowell

Joanne Shannis
Professor, Mathematics
B.A., Stonehill College; M.A.T., Bridgewater State College (1999)

Shanyun Wang
Professor, Mathematics
M.S. and PhD, Louisiana Tech University (2005)

ADJUNCT FACULTY

Steven Carlson
Mathematics
B.A., Mathematics Education, Clearwater Christian College (1999)

Richard Feren
Physics
B.S., Univ. of New Hampshire,
M.Ed., Antioch Univ.

Patricia Gaudet
Microbiology
M.S., Antioch Univ.

Steve Gundrum
Chemistry/Physics
M.S., Boston College

Suzanne Moore
Biological Sciences
A.S., The High Tech Yoga Institute; A.A., Gulf Coast Community College
B.S., Zoology; The Ohio State University; Doctor of Veterinary Medicine, The Ohio State University College of Veterinary Medicine

Tim Otis
Physics & Developmental Chemistry
B.A., St. Anselm College

DEPARTMENT OF LIBERAL ARTS/Social Sciences (AN, ECON, GEOG, HIST, POL, PSYC, SOC)

Jean Clouatre,
Department Chair, Social Sciences
Professor, History/Humanities
B.A. and M.A., Rivier College; M.A., Anna Maria College (2000)

James Nielsen
Associate Professor, Social Sciences
B.S., New Hampshire College (1980)

Denise St. Cyr
Professor, Social Sciences
B.A., Notre Dame College; M.A., Rivier College (1983)

ADJUNCT FACULTY

James Duffy
Social Sciences
B.A., Assumption College, M.Ed., University of New Hampshire

Benjamin Hampton
History, Humanities
B.A., Univ. of Maine, M.Ed., Keene State College

DEPARTMENT OF NURSING

vacant
Department Chair, Director of Nursing

Brenda Burke
Professor, Nursing
Nursing Diploma, Lawrence General Hospital, B.S.N., St. Anselm College, M.S.N., Boston University (1998)

Lyn L. Micklovich
Professor, Nursing,
A.D., Nassau Community College; B.S.N. Univ. of Maryland; M.Ed., Ball State Univ.(1994)

Susan Moore
Professor, Nursing
BSN, Univ. of Arizona,
MSN, St. Joseph's College; Ph.D., Kennedy Western Univ. (2000)

Karen Parr-Day
Professor, Nursing
A.A.S., County College of Morris; B.S.N, Vermont College; M.S., Rutgers (1999)

Jessica E. Price
Professor, Nursing
Diploma in Nursing, Mercer Hospital School of Nursing; B.S.Univ. of Rochester; M.S.N., Anna Maria College, Ed.D, University of Massachusetts-Lowell (1989)

Sue Ellen Van Nostrand
Professor, Nursing
B.S., Siena College; M.S.N.,FPN, Pace University (1984)

Charlene Wolfe-Stepro
Professor, Nursing
B.S.N. Fitchburg State College; M.S.N., Indiana Univ. (1990)

ADJUNCT FACULTY

Simonne Phelps
B.S., University of New Hampshire,
M.A., Springfield College