

**Central Ohio Technical College  
Course Description Listing  
2007-2008 Academic Year**

**GENERAL EDUCATION COURSES: 1000**

**ALL STUDENTS MUST TAKE PLACEMENT TESTS PRIOR TO SCHEDULING THE FIRST COMMUNICATIONS OR MATHEMATICS COURSE.**

**BHS 1006 Critical Thinking**

3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: 1532. Course is graded A-E.

This course, an introduction to logic, teaches students to analyze the media, advertising, and everyday problems -- career, academic, and personal. It aims at equipping students with the basic skills and discipline necessary to make valid judgments.

**COM 1007 Career Explorations**

2 credit hours, 2 contact hours (2 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-E.

Career Explorations provides opportunities for students to build confidence and to develop self-reliance while they relate their educational experience to the importance of career planning. The course focuses on self-awareness, job market research, career services and options at COTC, and team building. Students will experience contact with working professionals, class and team discussions, lectures, videos, handouts, readings, on-site visitations, and individual reports.

**BHS 1008 Ethics**

3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: 1532. Course is graded A-E.

This course studies basic ethical theories. The course balances theory and practice, using case studies and open discussion, and intends to afford students with the necessary knowledge, attitudes, and processes to make appropriate moral decisions.

**COM 1011 Career Planning I**

1 credit hour, 2 contact hours (0 hours lecture and 2 hours lab). Prerequisite: 1007, or documented enrollment in a technology program, or permission of the Academic Director, or current employment. Course is graded A-E.

This course develops the student's ability to prepare resumes, cover letters, and employment applications. Students examine authentic job materials with emphasis on writing job objectives, using action words, as well as focusing on the benefit factor. Professional appearance of documents is stressed.

**COM 1012 Career Planning II**

1 credit hour, 2 contact hours (0 hours lecture and 2 hours lab). Prerequisite: 1007, or 1011, or documented enrollment in a technology program, or permission of the Academic Director, or current employment. Course is graded A-E.

Technology Career Planning II prepares the student for the three stages of the interview process: pre-interview planning, interview management, and post-interview follow-up. Specific topics include: 1) company research; 2) interview questions and responses; 3) employer evaluation criterion; 4) positive image; 5) skill reinforcement; and 6) interview reassessment. Emphasis is given to professionalism and persuasive communication. This course is taught through employer contacts, role-play, small group discussion, lectures, videos, and videotaped interviews.

**BHS 1030 Reasoning Skills**

4 credit hours, 5 contact hours (3 hours lecture and 2 hours lab). Prerequisite: This course is required for all students who place in two or more Pre-College Communications courses. This course is open to any student with a grade of C (2.00) or better in 1400 (or a score of at least 75 on the COMPASS writing skills test or a score of at least 42 on the ASSET writing skills test) and a grade of C (2.00) or better in 1423 (or a score of at least 85 on the COMPASS reading skills test or a score of at least 44 on the ASSET reading skills test). Course is graded A-E. This course is not open to students with credit for 1406.

This course develops the critical thinking skills needed to analyze situations in personal, academic, and career life. Skills developed include analyzing facts, applying strategies for deep learning, recognizing assumptions, making decisions, evaluating information critically and ethically, and opening one's mind to other options.

*Published JUNE, 2007*

**COTC Course Description Listing  
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**MTH 1200 Basic Mathematics**

5 credit hours, 5 contact hours (5 hours lecture and 0 hours lab). Prerequisite: None. Not open to students with credit for 3000 or 3002. Course is required for all students scoring below 41 on the ASSET numerical skills test or below 44 on the COMPASS numerical skills test. This course will count neither for elective credit nor toward meeting minimum credit hours for graduation. Course is graded A-E.

Basic Mathematics is designed to develop the student's potential to succeed in other college mathematics courses. The basic arithmetic skills involving whole numbers, fractions, and decimals are reviewed. Also covered are signed numbers, percents, dimension analysis, and the rudiments of algebra.

**MTH 1203 Introduction to Geometry**

3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in 1200, or score of at least 41 on ASSET Numerical Skills test, or score of at least 44 on COMPASS Pre-Algebra/Numerical Skills test. This course will count neither for elective credit nor toward meeting minimum credit hours for graduation. Course is graded A-E.

This course is an introduction to elementary geometric concepts. It includes the study of lines, angles, triangles, polygons, circles and solids. Right triangle trigonometry and classic geometric constructions are also explored. This course is problem-solving oriented rather than proof-oriented.

**MTH 1204 Business Math**

5 credit hours, 5 contact hours (5 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in 1200, or score of at least 41 on ASSET numerical skills test or score of at least 44 on COMPASS pre-Algebra/Numerical Skills Test. Course is graded A-E. This course is not open to students with credit for 1201 or 1202.

This course is a study of basic business arithmetic. It presents the concepts and applications of percentages, payroll, insurance, consumer interest, loans, and other common business computations.

**MTH 1205 Introduction to Algebra**

5 credit hours, 5 contact hours (5 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in 1200, or score of at least 41 on ASSET Numerical Skills test, or score of at least 44 on COMPASS Pre-Algebra/Numerical Skills test. This course will count neither for elective credit nor toward meeting minimum credit hours for graduation. This course is not open to students with credit for 1210. Course is graded A-E.

This course is an introduction to elementary algebraic concepts. It includes operations with real numbers, exponents and radicals, variable expressions, first degree equations, word problems, formulas and graphing. The student will develop the ability to use a scientific calculator efficiently.

**MTH 1208 Elementary Statistics**

5 credit hours, 5 contact hours (5 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in 1205 or a score of at least 43 on the COMPASS Elementary Algebra Test or score of at least 10 on the COTC Algebra Skills Test. This course is not open to students with credit for 1224, 1230 or 2030. Course is graded A-E.

This is an introductory course in descriptive and inferential statistics. Topics covered include summarizing data with frequency tables; pictures of data; measures of center, variation and position; exploratory data analysis; probability; probability distributions; normal probability distributions; estimates and sample sites; hypothesis testing; inferences from two samples; correlation and regression. Concepts are explained intuitively and supported by examples. The applications are general in nature, and the exercises include problems from agriculture, biology, business, economics, education, environmental studies, psychology, engineering, medicine, sociology, and computer science.

**MTH 1210 College Algebra**

5 credit hours, 5 contact hours (5 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in 1205, or score of at least 10 on COTC Algebra Skills test, or score of at least 43 on COMPASS Elementary Algebra test. This course is not open to students with credit for 3010. Course is graded A-E.

This course is a study of intermediate algebraic operations. It includes solving equations and inequalities, factoring, rational expressions, radicals, systems of equations, and graphing.

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**MTH 1226 Trigonometry**

5 credit hours, 5 contact hours (5 hours lecture and 0 hours lab). Prerequisite: 1210 or a score of at least 76 on the COMPASS Elementary Algebra test. Course is graded A-E.

Exponential and logarithmic functions and concepts of trigonometry, including the graphing of trigonometric functions, are discussed.

**MTH 1232 Introduction to Calculus**

5 credit hours, 5 contact hours (5 hours lecture and 0 hours lab). Prerequisite: 1226 or a score of 46 on the COMPASS Trigonometry test. Course is graded A-E. Course is not open to students with credit for 1231 or 3020.

An introduction to the principles of Analytic Geometry to develop an understanding of graphic functions. These concepts are expanded to the calculus or rate of change expressed through algebraic functions, derivatives, maximum and minimum velocity, temperature, and the applications of the integral in areas, volumes, pressure, power, electrical charge and work; with the emphasis on their application as related to the engineering technician.

**BHS 1345 Human Development**

5 credit hours, 5 contact hours (5 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in 1383 or 1386. Course is graded A-E. Not open to students with credit for 4045.

Students study human development as a dynamic, multi-dimensional process from conception through death. Emphasis is placed on the inter-relationship of the many biopsychosocial factors influencing human development, general principles of growth and development, major developmental tasks encompassing each stage of the life cycle, and health and development problems common to each stage. Course requirements include a project focusing on the application of human development theories, concepts, principles, and tasks.

**BHS 1379 Cultural Diversity**

3 credit hours, 4 contact hours (2 hours lecture and 2 hours lab). Prerequisite: None. This course is not open to students with credit for 1389, 1392 or 1399. Course is graded A-E.

This course focuses on the differences and similarities among racial, ethnic, religious and other diverse populations in the United States and includes historical, religious and sociocultural issues and current conflicts.

**BHS 1382 Sociology**

3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-E. Course is not open to students with credit for 1380, 1381 or 1387.

Sociology is the study of social groups and social issues with emphasis on their effects on modern workers. Topics will be presented through lectures, films and classroom discussion.

**BHS 1383 Psychology of Adjustment**

5 credit hours, 5 contact hours (5 hours lecture and 0 hours lab). Prerequisite: (Minimum ASSET score of 44 in reading and 44 in writing) or (minimum COMPASS score of 85 in reading and 75 in writing) or (completion of both 1400 and 1423). Course is graded A-E. Not open to students with credit for 1393.

This course deals with issues related to personal growth and adjustment. Topics covered include basic research methods, personality, aspects of the self, social influence, interpersonal attraction and communication, emotional expression, sexual expression, adolescent and adult development, gender roles and mental health.

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**BHS 1384 Psychology for Nurses**

3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: Acceptance and enrollment in a COTC Nursing Technology program; (Minimum ASSET score of 44 in reading and 44 in writing) or (minimum COMPASS score of 85 in reading and 75 in writing) or (completion of both 1400 and 1423). Course is graded A-E.

This course will provide an introduction to basic research methods in psychology, theoretical systems, principles of learning, information processing, intelligence and intelligence testing, motivation and emotion, personality theories, and social psychology. This course will not be accepted as a substitute for 1386 General Psychology in other technologies.

**BHS 1385 Organizational Psychology**

3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None. Course is graded A-E.

Organizational Psychology is an introduction to the application of the methods, facts, and principles of psychology of human behavior within work organizations. Topics include history and use of applied psychology, causation and purpose in behavior, leadership, group problem solving and group leadership, evaluating individual abilities, motivating workers for optimum performance, job fatigue, and counseling skills for managers. Course objectives are achieved through lecture and discussion, role-playing exercises, and written projects.

**BHS 1386 General Psychology**

5 credit hours, 5 contact hours (5 hours lecture and 0 hours lab). Prerequisite: (Minimum ASSET score of 44 in reading and 44 in writing) or (minimum COMPASS score of 85 in reading and 75 in writing) or (completion of both 1400 and 1423). This course is not open to students with credit for 1395 or 1396. Course is graded A-E.

General Psychology provides an introduction to the areas of basic theoretical constructs, nervous system functioning, perception, learning, memory, emotion, cognition, intelligence, personality theories, stress, social psychology and psychology.

**BHS 1388 Abnormal Psychology**

3 credit hours, 4 contact hours (2 hours lecture and 2 hours lab). Prerequisite: C grade (2.00) or better in 1383 or 1386. Course is graded A-E. Course is not open to students with credit for 1397.

Abnormal psychology is the study of maladaptive behaviors with emphasis on etiology, classification, clinical characteristics and treatment. Major areas of student include anxiety disorders, mood disorders, dissociative disorders, somatoform disorders, personality disorders, psychosis and related legal issues.

**BHS 1398 International Relations**

3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: 1532. Course is graded A-E.

International Relations is the study of the geography, history, culture, religion, and political and economic processes of significant modern nations. Topics will be presented through lectures, films, classroom discussion and individual research.

**BHS 1399 Cultural Diversity for Law Enforcement**

3 credit hours, 4 contact hours (2 hours lecture and 2 hours lab). Prerequisite: Open to Law Enforcement Technology students only. This course is not open to students with credit for 1389 or 1392. Course is graded A-E.

This course focuses on the differences and similarities among racial, ethnic, and other diverse populations in the United States and includes historical, religious, and sociocultural issues and current conflicts.

**PCE 1400 Basic Writing Skills**

4 credit hours, 5 contact hours (3 hours lecture and 2 hours lab). Prerequisite: This course is required of all students scoring below 75 on the COMPASS writing skills test or below 42 on the ASSET writing skills test. Course is not open to students with credit for 1110, 1500, 1501 or 1510. This course will count neither for elective credit nor toward meeting minimum credit hour requirements for graduation. Course is graded A-E.

This course provides the student with the opportunity to strengthen written language skills with emphasis on the writing process, sentence structure, unified paragraphs, word usage, capitalization, punctuation, and spelling.

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**PCE 1413 Basic College Success Skills**

3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: None. This course is required of all students scoring below 85 on Compass Reading Skills or below 44 on ASSET Reading Skills. Course is not open to students with credit for 1013 or 1015. This course will count neither for elective credit nor toward meeting the minimum credit hour requirements for graduation. Course is graded A-E.

College success skills are those skills that the student must master in order to function and succeed within the structure of college life. Many of these skills will carry over into the world of work. Skills developed in this course include basic organizational techniques such as time management, memory and concentration, prioritizing tasks, and goal setting. Academic skills include identifying individual learning styles, note taking, and test taking skills.

**PCE 1423 Basic Reading Skills**

**3 credit hours, 4 contact hours (2 hours lecture and 2 hours lab). Prerequisite: None; however, this course is required of all students scoring below 85 on the COMPASS reading skills test or below 44 on the ASSET reading skills test. Course is graded A-E.** This course will count neither for elective credit nor toward meeting the minimum credit hour requirements for graduation. This course is not open to students with credit for 1023.

Critical reading skills necessary for successful use of college level reading materials are the focus of this course. Critical reading and vocabulary building skills covered include: features of textbooks, interpreting graphics, identifying main ideas and supporting details, textbook marking and annotating, vocabulary building, dictionary usage, and reading systems. This course may be taken concurrently with College Success Skills.

**PCE 1424 English for Speakers of Other Languages (ESOL) I**

2 credit hours, 3 contact hours (1 hour lecture and 2 hours lab). Prerequisite: Self placement or ESL Compass Score of XXXX. Course is graded S/U.

English for Speakers of Other Languages I (ESOL I) focuses on basic sentence structure and the writing process, developing a reflective writing portfolio, and basic reading comprehension skills. ESOL I is a technology assisted instruction course that utilizes a constructivist humanistic methodology in developing basic American English skills required for successful entry into college level technology courses. This course is graded on a Satisfactory/Unsatisfactory basis.

**PCE 1425 English for Speakers of Other Languages (ESOL) II**

2 credit hours, 3 contact hours (1 hour lecture and 2 hours lab). Prerequisite: Successful completion of 1424 ESOL I or ESL Compass Score of XXXX. Course is graded S/U.

English for Speakers of Other Languages II (ESOL II) focuses on basic sentence structure and the writing process, developing a reflective writing portfolio, and basic reading comprehension skills. ESOL II is a technology assisted instruction course that utilizes a constructivist humanistic methodology in developing basic American English skills required for successful entry into college level technology courses. This course is graded on a Satisfactory/Unsatisfactory basis.

**COM 1504 Public Speaking**

3 credit hours, 4 contact hours (2 hours lecture and 2 hours lab). Prerequisite: 1533. This course is not open to students with credit for 1112, 1509, 1509.1, 1512, or 1521. Course is graded A-E.

This course emphasizes instruction and practical experience in public speaking. Students learn to analyze audiences, select topics, apply research learned, organize, and present a series of extemporaneous speeches. This course introduces other interpersonal and intrapersonal communications skills, including listening, non-verbal communications, and small group communications.

**COM 1514 Contemporary Fiction**

5 credit hours, 5 contact hours (5 hours lecture and 0 hours lab). Prerequisite: 1532 or equivalent. Course is graded A-E.

This course acquaints the student with various pieces of contemporary fiction. The student reads noteworthy novels and short stories and writes essays demonstrating his/her analysis and understanding of these texts.

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**COM 1523 Small Group Communications**

3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: 1533. Course is not open to students with credit for 1115 or 1515. Course is graded A-E. This course has been approved by the Ohio Board of Regents as meeting the Transfer Assurance Guide (TAG) course requirements.

Students practice the techniques of defining, researching, planning, and group decision making in a series of five conferences, stressing leadership, participation, and responsibility.

**COM 1525 Technical Writing**

3 credit hours, 4 contact hours (2 hours lecture and 2 hours lab). Prerequisite: 1533. Course is graded A-E. This course is not open to students with credit for 1113, 1505, 1513, or 1522.

Training in writing techniques used in business, industry, and public service is stressed. The student prepares, edits, and submits memoranda, letters, reports, and resumes.

**COM 1531 National Issues**

3 credit hours, 3 contact hours (3 hours lecture and 0 hours lab). Prerequisite: 1532. This course is not open to students with credit for 1530. Course is graded A-E.

The course explores the economical, historical and geo-political nature and ramification of several current issues facing the people of the United States. Each issue will be studied in depth. It requires synthesis and fine-tuning of the basic communicative skills--thinking, listening, speaking, reading, and writing. Frequent oral and written reports are required.

**COM 1532 Composition I**

4 credit hours, 5 contact hours (3 hours lecture and 2 hours lab). Prerequisite: A grade of C (2.00) or better in 1400 (or a score of at least 75 on the COMPASS writing skills test or a score of at least 42 on the ASSET writing skills test) and a grade of C (2.00) or better in 1423 (or a score of at least 85 on the COMPASS reading skills test or a score of at least 44 on the ASSET reading skills test). Course is graded A-E. Course is not open to students with credit for 1111, 1502, 1506, 1508, 1511 or 1520.

Composition I introduces the student to college writing. The student will practice the writing process including pre-writing, draft writing, editing, revising, and peer reviewing. This course will emphasize collaborative essay development via the writing process. The course introduces basic research skills, library use and source documentation skills. The student reads and writes narrative, descriptive, and comparison/contrast, and expository essays.

**COM 1533 Composition II**

4 credit hours, 5 contact hours (3 hours lecture and 2 hours lab). Prerequisite: 1532 or equivalent. Course is graded A-E. Course is not open to students with credit for 1533.

Composition II continues development of skills introduced in Composition I. The research process will be expanded and emphasized and the student will write a variety of expository and argumentative papers with an emphasis on research. The student in this course will practice collaborative writing as well. Use of the Library and online resources and referencing techniques will be covered; the student will be expected to adhere to the conventions of standard American English.

**COM 1534 Effective Communications**

4 credit hours, 5 contact hours (3 hours lecture and 2 hours lab). Prerequisite: 1532 and 1533. Course is graded A-E.

This course is constructed to help the student meet those needs identified as critical by the local business and professional community. It focuses the student on further development of their communication skills as well as their methods of delivery in the workforce. Skills emphasized include presenting effective verbal communications for one-on-one and group formats, assessing effectiveness of written and oral presentations, enhancing awareness of listening barriers, in addition to identifying and adjusting to non-verbal cues of audience. Development in methods of delivery include selecting and utilizing a variety of appropriate tools such as electronic media and graphics.

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**CMP 1601 Principles of Computing**

1 credit hour, 2 contact hours (0 hours lecture and 2 hours lab). Prerequisite: None. S/U Graded Course. Course is not open to students with credit for 1600, 2921, 2900, 2500, or 3012.

Principles of Computing introduces the student to basic computer uses. The course includes an understanding of computers and how they function. The student will identify and use hardware and software. Both operating systems and application software will be introduced. The student will become familiar with common application programs including word processing, data base, spreadsheet, graphics, presentation, web authoring, and email accounts. The course is graded Satisfactory/Unsatisfactory.

**NAT 1700 Basic Chemistry**

6 credit hours, 7 contact hours (5 hours lecture and 2 hours lab). Prerequisite: C grade (2.00) or better in (1205 or 1210), or score of at least 10 on COTC Algebra Skills test, or score of at least 43 on COMPASS Elementary Algebra test. This course will count neither for elective credit nor toward meeting minimum credit hours for graduation. Recommend completion of or concurrent enrollment in 1400 or equivalent course or college level composition course. Course is graded A-E. Not open to students with credit for 1223.

An introduction to the basic concepts of chemistry designed to serve as a foundation (or refresher) for the student about to enter the study of allied health sciences.

The course includes the following topic areas: metrics; elements, compounds and mixtures; atomic structure; bonding; chemical reactions, energy of reactions; oxidation-reduction; gas laws, solids and liquids; liquid mixtures; acids, bases and salts; and a brief look at fluid-electrolyte balance.

**NAT 1705 Introduction to Human Biology**

4 credit hours, 4 contact hours (4 hours lecture and 0 hours lab). Prerequisite: None; Recommend completion of or concurrent enrollment in 1400 or equivalent course or college level composition course. Course is graded A-E. Not open to students with credit for 1705.

A basic introduction to biology through the study of the human body. The course is designed for the student planning entry into a technology requiring an understanding of human structure and function or familiarity with anatomical and physiological terminology.

**NAT 1710 General Organic Chemistry**

6 credit hours, 7 contact hours (5 hours lecture and 2 hours lab). Prerequisite: C grade (2.00) or better in 1700; Recommend completion of or concurrent enrollment in 1400 or equivalent course or college level composition course. Course is graded A-E. Not open to students with credit for 1228.

The course discusses the structures, reactions, properties, and naming of simple organic compound classes, including hydrocarbons, working up to the more complex biological compounds.

**NAT 1715 Chemistry Fundamentals**

6 credit hours, 7 contact hours (5 hours lecture and 2 hours lab). Prerequisite: (High School Algebra or 1205 or equivalent) and High School Chemistry. All prerequisite courses must have a grade of "C" (2.00) or better. Recommend completion of or concurrent enrollment in 1400 or equivalent course or college level composition course. Course is graded A-E. Not open to students with credit for 1227.

This general, organic and biochemistry course is designed to serve as a foundation for the student about to enter the study of allied health sciences. Topics covered include: metrics, elements, compounds, mixtures, atomic structure bonding, chemical reactions, energy of reactions, oxidation-reduction, solids and liquids, liquid mixtures, acids, bases, salts, a brief look at fluid-electrolyte balance, fundamentals of nuclear chemistry, properties of organic molecules and biological macromolecules. The laboratory portion of this course enhances the theories and concepts presented in lecture.

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**NAT 1720 General Physics**

5 credit hours, 6 contact hours (4 hours lecture and 2 hours lab). Prerequisite: C grade (2.00) or better in 1210. Recommend completion of or concurrent enrollment in 1400 or equivalent course or college level composition course. Course is graded A-E. Not open to students with credit for 3026.

This course will prepare the student for more complex courses in Forensic Science. The student will learn fundamental ideas of measurements, motion, energy, electricity, magnetism and heat. The student will be introduced to atomic and nuclear physics including basic protection. The student will apply these principles in a lab setting.

**NAT 1730 Environmental Science**

5 credit hours, 6 contact hours (4 hours lecture and 2 hours lab). Prerequisite: None.; Recommend completion of or concurrent enrollment in 1400 or equivalent course or college level composition course. Course is graded A-E. Not open to students with credit for 4061.

This course is an introduction to environmental science with an emphasis on the complexity and interrelatedness of environmental issues, concerns, problems, and economics. The impact of humans on ecosystems, resources, energy and the environment are presented. Special reference is made to the significance of toxic materials. The roles of business, industry, and government as related to the environment will also be addressed. The laboratory portion of this course enhances the theories and concepts presented in the lecture.

**NAT 1740 General Biology**

5 credit hours, 6 contact hours (4 hours lecture and 2 hours lab). Prerequisite: High School Science with a grade of "C" (2.00) or better or 1705 with a grade of "C" or better. Recommended strongly as preparation for the student who must take 1770/1771 Human Anatomy and Physiology I and 1774/1775 Human Anatomy and Physiology II. Recommend completion of or concurrent enrollment in 1400 or equivalent course or college level composition course. Course is graded A-E. Not open to students with credit for 4070.

General Biology introduces the major concepts and principles of biology, emphasizing inorganic, organic and biochemistry processes and concepts, cell structure and function, DNA function and technology, genetics, diversity of all living organisms, and ecology. The laboratory portion of this course enhances the theories and concepts presented in lecture.

**NAT 1745 Human Biology**

5 credit hours, 7 contact hours (3 hours lecture and 4 hours lab). Prerequisite: High school biology or equivalent or 1705) with a grade of "C" (2.00). May not be taken concurrently with 1705. High School Chemistry or equivalent is strongly recommended but not required. Recommend completion of or concurrent enrollment in 1400 or equivalent course or college level composition course. Course is graded A-E. Not open to students with credit for 4081.

Human Biology 4081 is an introduction to biology through study of the human body. Laboratory studies may use human cadavers, along with other learning sources including videos, computer applications, histological slides and anatomical models. The course is designed for students planning entry into a technology requiring a basic understanding of human structure and function or familiarity with anatomical and physiological terminology. This course does not count or substitute credit for Human Anatomy and Physiology I or II, both of which are required for students enrolled in associate degree Health Technologies programs (Diagnostic Medical Sonography Technology, Nursing Technology, Radiographic Technology or Surgical Technology) at Central Ohio Technical College.

**NAT 1750 Elementary Microbiology**

2 credit hours, 2 contact hours (2 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in high school chemistry (or 1700/1225 or 1715) or completion of 4081 with a C grade (2.00) or better. Recommend completion of or concurrent enrollment in 1400 or equivalent course or college level composition course. Not open to students with credit for 1755, 4003 or 4004. Course is graded A-E.

Introduction to microbiology, surveying the basic types of microscopic organisms. Classification, structure, culturing, transmission, microbial control, and selected diseases are studied.

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**NAT 1755 Microbiology for the Health Professions**

5 credit hours, 6 contact hours (4 hours lecture and 2 hours lab). Prerequisite: C grade (2.00) or better in high school chemistry (or 1700/1225 or 1715) **and in a general College biology course or in 1770/1771**. Open to any student not enrolled in Nursing or Allied Health programs on a space available basis. For students enrolled in Nursing Technology programs, this course must be taken prior to or concurrently with first second level health alterations course. Recommend completion of or concurrent enrollment in 1400 or equivalent course or college level composition course. Course is graded A-E. Not open to students with credit for 4003.

A survey of the microbial world including types of microbes, microbial metabolism, microbial genetics, microbial growth, host/microbe interactions, immunology, and infectious diseases of the body systems. The laboratory portion of this course enhances the theories and concepts presented in the didactic portion of the course.

**NAT 1760 Medical Terminology**

2 credit hours, 2 contact hours (2 hours lecture and 0 hours lab). Prerequisite: None. Student must have knowledge of computer applications and access to a computer. Recommend completion of or concurrent enrollment in 1400 or equivalent course or college level composition course. Course is graded A-E. 1760 has been approved by the Ohio Board of Regents as meeting the Transfer Assurance Guide (TAG) course OHL005 requirements. *THIS COURSE IS NOT OPEN TO NURSING TECHNOLOGY STUDENTS; 1760 WILL NOT SUBSTITUTE FOR THE MEDICAL TERMINOLOGY PORTION OF 4226*. Not open to students with credit for 4039.

This web-based on-line course is designed to introduce the student to the basic elements of medical terminology. The material presented will give the student the ability to combine root elements with prefixes, suffixes, and combining vowels to decipher and understand medical terms.

**NAT 1765 Nutrition**

3 credit hours, 4 contact hours (2 hours lecture and 2 hours lab). Prerequisite: None; Recommend completion of or concurrent enrollment in 1400 or equivalent course or college level composition course. Course is graded A-E. Not open to students with credit for 4036.

Students will learn about the fundamental principles and practices that are essential in nutritional care to maintain health, to prevent illness, and to provide support and therapy during illness. The focus will be on the composition and function of foods; the nutritional needs during the life cycle; and the ways in which variations in caloric content, consistency, and nutrient composition may be employed to meet individual diet requirements.

**NAT 1770 Human Anatomy and Physiology I**

5 credit hours, 5 contact hours (5 hours lecture and 0 hours lab). Prerequisite: Biology and Chemistry as follows: Biology: High School Biology or 1705; Chemistry: High School Chemistry and 1715 or both 1700 and 1710 All prerequisite courses must have a grade of "C" (2.00) or better. This course is open to any student not enrolled in the Health Technologies programs on a space available basis. Concurrent enrollment in 1771 is required. Recommend completion of or concurrent enrollment in 1400 or equivalent course or college level composition course. Course is graded A-E. Not open to students with credit for 4012.

Introduction to the study of the anatomy and physiology of the human, including standard terminology, chemistry review, cells and tissues, with the structure and function of the integumentary system, skeletal system, muscular system, nervous system, excretory system, and reproductive system.

**NAT 1771 Human Anatomy and Physiology Lab I**

1 credit hour, 2 contact hours (0 hours lecture and 2 hours lab). Prerequisite: Concurrent enrollment in 1770 is required. Recommend completion of or concurrent enrollment in 1400 or equivalent course or college level composition course. Course is graded A-E. Not open to students with credit for 4012.

Utilizing human cadavers and laboratory models, the anatomy and physiology laboratory course will introduce the study of standard terminology, cells and tissues, with the structure and function of the integumentary system, skeletal system, muscular system, nervous system, excretory system, and reproductive system.

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**NAT 1774 Human Anatomy and Physiology II**

5 credit hours, 5 contact hours (5 hours lecture and 0 hours lab). Prerequisite: C grade (2.00) or better in 1770 and 1771 or equivalent. Concurrent enrollment in 1775 is required. Course is graded A-E. Not open to students with credit for 4022.

This course is the continued study of the anatomy and physiology of the human including the structure and function of the receptors, gastrointestinal system, cardiovascular system, lymphatic system, respiratory system, endocrine system, genetics and embryology.

**NAT 1775 Human Anatomy and Physiology Lab II**

1 credit hour, 2 contact hours (0 hours lecture and 2 hours lab). Prerequisite: Concurrent enrollment in 1774 is required. Recommend completion of or concurrent enrollment in 1400 or equivalent course or college level composition course. Course is graded A-E. Not open to students with credit for 4029.

Utilizing human cadavers and laboratory models, the anatomy and physiology laboratory course will continue the study of the anatomy and physiology of the human including the structure and function of the receptors, gastrointestinal system, cardiovascular system, lymphatic system, respiratory system, endocrine system, genetics and embryology.

**NAT 1778 Pathophysiology I**

3 credit hours, 4 contact hours (2 hours lecture and 2 hours lab). Prerequisite: C grade (2.00) or better in 1770/1771 or its equivalent. Recommend completion of or concurrent enrollment in 1400 or equivalent course or college level composition course. Course is graded A-E. Not open to students with credit for 4048. 1778 plus 1779 together have been approved by the Ohio Board of Regents as meeting the Transfer Assurance Guide (TAG) course requirements.

Study of pathological imbalances including cellular adaptation and injury, fluid compartment exchanges with edema and dehydration, electrolyte functions, control and imbalances, acidosis and alkalosis, nervous system injuries and responses, sensory imbalances, skeletal system injury and repair, soft tissue injury and repair, and muscle injury and dysfunction.

**NAT 1779 Pathophysiology II**

3 credit hours, 4 contact hours (2 hours lecture and 2 hours lab). Prerequisite: C grade (2.00) or better in 1774/1775 (or equivalent) and 1778 (or equivalent). Recommend completion of or concurrent enrollment in 1400 or equivalent course or college level composition course. Course is graded A-E. Not open to students with credit for 4049. 1778 plus 1779 together have been approved by the Ohio Board of Regents as meeting the Transfer Assurance Guide (TAG) course requirements.

Study of pathological imbalances including blood pressure, homeostasis, shock, cardiac malfunction, respiratory malfunction, hematopoiesis with anemias and leukemias, gastrointestinal imbalances, liver malfunction, renal failure, bladder injury and control, and endocrine hypersecretions and hyposecretions.