



UNDERGRADUATE CATALOG

AUGUST 2022

ABOUT EXCELSIOR UNIVERSITY

Excelsior University is an accredited, nonprofit distance learning institution founded in 1971 focused on providing educational opportunity to adult learners. Excelsior contributes to the development of a diverse, educated society by valuing lifelong learning with an emphasis on serving individuals who are historically underrepresented by higher education. Excelsior meets students where they are—academically and geographically—removing obstacles to the educational goals of adult learners through affordable access to quality instruction and the assessment of learning. Our pillars include innovation, flexibility, academic excellence, and integrity.

Excelsior University is committed to providing a learning and working environment that is free from illegal discrimination based upon an individual's race, ethnicity, national origin, age, religion, marital status, familial status, gender, gender identity, sexual orientation, physical or mental disability, genetic information, or military or veteran status. Illegal discrimination in any form will not be tolerated at Excelsior University.

Excelsior University is a Title IV-eligible institution offering federal student aid to students who qualify in course-based programs. Stand-alone exam-based options are not eligible.

OUR MISSION

Excelsior University provides educational opportunity to adult learners with an emphasis on those historically underrepresented in higher education. Excelsior meets students where they are—academically and geographically, offering quality instruction and the assessment of learning.

VISION

Excelsior University is a provider of choice for adults seeking access to higher education and academic success, and it is a model for addressing societal and workforce needs.

ACCREDITATION

Excelsior University (and under its former names, Excelsior College and Regents College) has been continuously accredited since 1977 by the Middle States Commission on Higher Education, 1007 North Orange Street, 4th Floor, MB #166, Wilmington, DE 19801 (267-284-5011), www.msche.org. The MSCHE is an institutional accrediting agency recognized by the U.S. Secretary of Education and the Council for Higher Education Accreditation (CHEA).

New York State Board of Regents—Recognized Programmatic Accreditation: Excelsior University's nursing programs are programmatically accredited by the New York State (NYS) Board of Regents, State Education Department Office of the Professions (the Regents). The U.S. Department of Education has recognized the Regents as a state agency for the approval of nursing education programs since 1969.

More information about the NYS Board of Regents' Recognized Programmatic Accreditation may be helpful for students or graduates to present to a school they are attending or to an employer

seeking more information about their Excelsior University nursing degree.

The BS in Nursing and master's nursing programs at Excelsior University are accredited by the:

The Accreditation Commission for
Education in Nursing (ACEN)
3390 Peachtree Road NE, Suite 1400
Atlanta, GA 30326
PH: 404-975-5000

The most recent accreditation decision made by the ACEN Board of Commissioners for the bachelor's nursing program in March 2019 is Continuing Accreditation.

View the public information disclosed by the ACEN regarding these programs at www.acenursing.us/accreditedprograms/programSearch.htm

The ACEN is a specialized accrediting agency for nursing recognized by the U.S. Secretary of Education and the Council for Higher Education Accreditation (CHEA).

The bachelor's degree program in electrical engineering technology is accredited by the Engineering Technology Accreditation Commission of ABET, www.abet.org. The bachelor's degree program in nuclear engineering technology is accredited by the Engineering Technology Accreditation Commission of ABET, www.abet.org. The bachelor's degree program in information technology is accredited by the Computing Accreditation Commission of ABET, www.abet.org.

Excelsior University has received specialized accreditation for its business programs through the International Accreditation Council for Business Education (IACBE), 11374 Strang Line Rd., Lenexa, KS 66215. The business programs in the following degrees are accredited by the IACBE:

Bachelor of Science in Business with concentrations in: *Accounting, Finance, General Business, Logistics Management, Management of Human Resources, and Marketing*; and the Master of Business Administration (MBA) with concentrations in: *General Track (no concentration), Accounting, Health Care Management, Human Resource Management, and Leadership*. Master of Science in Management with concentrations in: *General Business Management, Human Resource Management, and Organizational Leadership*.

All Excelsior University academic programs are registered (i.e., approved) by the New York State Education Department.

RECOGNITION

The National Security Agency and the Department of Homeland Security designated Excelsior University as a National Center of Academic Excellence in Cyber Defense Education, 2019–2024.

Excelsior University has achieved institutional-level recognition for implementing Quality Matters™ standards for the design of online courses. Excelsior systematically develops and evaluates its online courses based on rigorous, research-based Quality Matters™ standards to ensure learner engagement and provide tools and information for successful learning.

Message from the Dean

Dear Student,

Welcome to Excelsior University! Congratulations on taking the next step in your educational journey. We are excited and honored to work with you as you pursue your educational, career, and professional goals.

The School of Undergraduate Studies is committed to preparing a skilled and credentialed graduate for success in the 21st century economy. The combination of academic rigor, real-world and practical focus, and an interdisciplinary approach will enable you to attain a career in various high-demand industries, including, but not limited to, business, engineering technology, information technology, cybersecurity, health sciences, public service, criminal justice, and more.

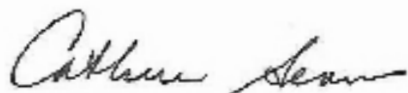
Our priority is and always will be our students. Excelsior prides itself for 50 years of experience in serving adult learners. As an institution that accepts prior coursework, work experience, and industry certifications for college credit, Excelsior provides you with flexible and affordable pathways to achieve your educational and professional goals while balancing personal and professional responsibilities.

In this catalog, you will find detailed descriptions of the degree options available through the School of Undergraduate Studies. We encourage you to review it and contact us if you have any questions.

The School of Undergraduate Studies and all Excelsior faculty, staff, and academic advisors are committed to your academic and professional success.

Thank you for choosing Excelsior University. We are your partners in this journey and look forward to working with you to help you accomplish your goals. Best wishes for your success.

Sincerely,

A handwritten signature in black ink, appearing to read "Catherine Seaver".

Catherine Seaver, PhD
Dean, School of Undergraduate Studies



Catherine Seaver, PhD

LIMITATIONS

Information in this catalog is current as of August 2022, and is subject to change without advance notice.

CHANGES IN UNIVERSITY POLICIES, PROCEDURES, AND REQUIREMENTS

Excelsior University reserves the right to modify or revise the admission requirements of any program; degree and graduation requirements; examinations, courses, tuition, and fees; and other academic policies, procedures, and requirements. Generally, program modifications and revisions will not apply to currently matriculated students so long as they actively pursue their degree requirements. However, in the event that it is necessary to make program changes for matriculated students, every effort will be made to give notice. It is also the responsibility of students to keep themselves informed of the content of all notices concerning such changes.

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Excelsior University maintains a drug-free workplace and is a drug-free school, as provided by the Federal Drug-Free Schools and Communities Act Amendments of 1989 and the Drug-Free Workplace Act of 1988.

Excelsior University is committed to providing a learning and working environment that is free from illegal discrimination based upon an individual's race, ethnicity, national origin, age, religion, marital status, familial status, gender, gender identity, sexual orientation, physical or mental disability, genetic information, or military or veteran status. Illegal discrimination in any form will not be tolerated at Excelsior University.

Campus Crime Statistics can be found at the following website: ope.ed.gov/security.

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MISSION STATEMENT

The School of Undergraduate Studies enables academic and personal success through lifelong learning.

We incorporate prior learning and provide innovative courses, high quality instruction, and exceptional support to adult learners.

VISION STATEMENT

We empower students to forge pathways throughout their education, their careers, and their lives, with experiences that transform.

GENERAL EDUCATION AT EXCELSIOR UNIVERSITY

To best prepare you in your career and life, Excelsior University has developed General Education Career Competencies (GECCs) based on findings from employer-based research. These competencies are the foundation of our curricula. You will encounter these competencies by meeting the requirements for general education and your program of study.

Excelsior University's approach to general education aims to prepare students to engage with complexity and change, to be productive, open-minded, and intellectually curious members of their communities and workplaces, and to develop a love of lifelong learning. Excelsior's general education program consists of two interrelated features:

1. a set of seven general education career competency areas threaded throughout the entire curriculum, and
2. a standardized credit distribution requirement that ensures breadth across the arts and sciences, including the humanities, social sciences/history, and natural sciences/mathematics, as well as basic skills in writing and information literacy.

General Education Career Competencies for All Undergraduate Degree Programs

GENERAL EDUCATION AREA	CAREER COMPETENCIES	ACHIEVED THROUGH
1) Oral and Written Communication	1.1) Present oral communication with appropriate content, organization, and delivery for the audience and purpose.	Achieved through the Cornerstone and Capstone requirements.
	1.2) Deliver written communication with appropriate content, organization, syntax, mechanics, and style for the audience and purpose.	Achieved through the Written English (WER) requirements.
2) Mathematical and Scientific Problem Solving	2.1) Apply scientific knowledge and reasoning to make evidence-based decisions.	Achieved through the Natural Science requirement.
	2.2) Apply mathematical concepts and reasoning to solve problems that involve quantitative information.	Achieved through the Mathematics requirement.
3) Information Literacy	3.1) Locate and evaluate sources to meet an information need.	Achieved through the Information Literacy requirement.
	3.2) Cite sources using appropriate academic conventions.	
4) Cultural Diversity and Expression	4.1) Analyze human thought, creative expression, or cultural representations within their contexts.	Achieved through the Humanities distribution requirement.
	4.2) Explain the dynamics of social identity or cultural differences within interpersonal and societal relations.	
5) Global Understanding	5.1) Explain how social, political, economic, or cultural forces shape relations between individuals and groups around the world.	Achieved through the Social Science/History distribution requirement.

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6) Ethical Reasoning	6.1) Explain different ethical positions in relation to a problem or issue.	Achieved through the Ethics requirement. Must be completed with a minimum grade of C.
7) Professional Presence and Self-Awareness	7.1) Develop a career planning strategy that incorporates your strengths, interests, abilities, and values. 7.2) Explain the norms and conventions of the workplace for a career field.	Achieved through the Cornerstone and Capstone requirements.

For more information on general education goals and outcomes, visit <https://www.excelsior.edu/about/general-education-career-competencies>.

Requirements for All Undergraduate Degree Programs

All undergraduate students must meet requirements in the following areas:

- ▶ Humanities
- ▶ Social Sciences and History
- ▶ Natural Sciences and Mathematics
- ▶ Written English
- ▶ Information Literacy

Students will also need to complete a Cornerstone course at the beginning of their program and a Capstone course at the end of their program.

For specific information about credit hour requirements in these areas for associate degrees and bachelor's degrees, see [page 15](#) and [page 40](#) of this catalog.

Some degree programs require specific courses within the areas listed above. Your academic advisor will work closely with you to plan how you will meet the requirements of your degree program.

For additional details about meeting general education and distribution requirements, refer to the [Student Policy section](#) of the Excelsior University website.

Cornerstone Course

Students can satisfy the Cornerstone requirement by taking either **IND 101 Cornerstone A: Foundations course** or **IND 301 Cornerstone B: Pathways course**. The purpose of the Cornerstone course is to provide students with the foundational skills and resources for academic and career success, and assure a “smart start” to the Excelsior University academic experience, Excelsior has implemented a Cornerstone course requirement. All students who enroll in an undergraduate degree program will be required to complete a Cornerstone course with a grade of C or better, in their first term of credit-bearing activity after admission to Excelsior University.

The Cornerstone cannot be completed in the same term as the Capstone course.

Humanities

The humanities focus on the reflection and interpretation of the human experience. Through the development of knowledge and skills in critical thinking and problem solving, and aesthetic appreciation, these courses examine the human environment with particular attention to diverse heritage, traditions and cultures.

To meet the humanities distribution requirement, students must successfully complete a

specified number of courses or examinations within such disciplines as art, music, literature, philosophy, religion, speech, or communication. Courses or examinations used to satisfy the written English requirement and lower-level applied, technical or professional writing courses may not be applied toward the humanities core requirement.

A minimum grade of C is required for courses intended to meet core requirements. A minimum grade of D is required for Excelsior University courses not intended to meet core requirements. A minimum grade of C is required for courses transferred from other sources.

Social Sciences and History

The social sciences and history involve the study of individuals and societies and the processes individuals use to order and understand their world. The social sciences focus on theories that explain verifiable phenomena of individual and group human behavior, using the scientific method. History is the systematic study of people and events in the past.

To meet the social science and history distribution requirement, students must successfully complete a specified number of courses or examinations within such disciplines as anthropology, criminal justice (theory-based, not applied criminal justice), economics, geography, government, history, political science, psychology, and sociology.

A minimum grade of C is required for courses intended to meet core requirements. A minimum grade of D is required for Excelsior University courses not intended to meet core requirements. A minimum grade of C is required for courses transferred from other sources.

Natural Sciences and Mathematics

The natural sciences and mathematics are those branches of science that examine the natural world through scientific methods using quantitative data. There are five major branches of the natural sciences: astronomy, biology, chemistry, earth science, and physics.

To meet the natural sciences distribution requirement, student must successfully complete a specified number of courses or examinations in a science discipline (e.g., biology, chemistry, physics). Courses in applied science will not apply toward the core requirement.

Mathematics is the study of patterns, often relating to quantity, space, and change within a foundation of logic. Core branches of mathematics include, but are not limited to, algebra, geometry, analysis (which includes calculus) and applied mathematics (which includes probability and statistics).

To meet the math distribution requirement, students must successfully complete a specified number of courses or examinations in mathematics.

Mathematics courses must include computation or quantitative reasoning. There are some restrictions on courses that can be used to meet the mathematics requirement, such as:

- ▶ Arithmetic courses and courses that have been designated as developmental or remedial cannot be used to meet the mathematics requirement.
- ▶ No more than three courses of mathematics credit below the level of calculus may be applied to any degree. Representative titles of courses below the level of calculus include College Math, College Algebra, Elementary Functions, Modern Math, Fundamentals of Algebra, Trigonometry, and Precalculus.
- ▶ No more than one course or examination may be applied that is:

continued on next page

- ▶ terminal in nature with no prerequisites beyond the level of arithmetic;
- ▶ intended for students outside of science and mathematics;
- ▶ a mathematics appreciation course.

A minimum grade of C is required for courses intended to meet core requirements. A minimum grade of D is required for Excelsior University courses not intended to meet core requirements. A minimum grade of C is required for courses transferred from other sources.

Written English

To meet the Written English requirement, students are required to demonstrate competency in expository writing and English.

- ▶ Associate degree students are required to complete one expository writing course or examination (minimum 3 credit hours or 4 quarter hours) with a minimum of C grade. This must be completed within the first 13 Excelsior University credits attempted.
- ▶ Bachelor's degree students must complete two expository writing courses or examinations (minimum 6 credit hours or 8 quarter hour credits) with a minimum of C grade.

OR

- ▶ One expository writing course or examination (minimum 3 credit hours and one applied writing or disciplinary writing course (minimum three credit hours or four quarter hours). The expository writing course must be completed within the first 13 Excelsior University credits attempted.

The written English requirement may be met in several ways including:

1. University coursework

Expository writing courses such as Excelsior University's **ENG 101 English Composition**, **ENG 101A Advanced Composition**, **ENG 102 Composition II**,

ENG 102A Advanced Composition II

2. Examination

Advanced Placement (AP) English Examinations (fulfills the requirement for the associate and bachelor's degrees)

Excelsior University does not accept the **CLEP General Examination in English Composition with Essay** toward this requirement.

3. Statement of Equivalency

Submission of an official statement from a regionally accredited institution, from which transfer credit is being accepted, verifying satisfactory completion of the student's writing requirement. The statement must reflect whether the institution had a one-course or two-course writing requirement in effect at the time of the student's matriculation.

4. Noncollegiate-sponsored instruction

Successful completion of a noncollegiate-sponsored instructional writing course or program that has been evaluated by either the NYS Board of Regents National College Credit Recommendation Service (formerly National PONSI) or the American Council on Education Center for Adult Learning and Educational Credentials (ACE CREDIT), and contains a recommendation of at least 3 semester-hour credits for the course; this course must contain an actual assessment of the student's competence in expository writing in English.

The non-collegiate learning experience must have been successfully completed during the time period for which credit was recommended by the National CCRS or ACE CREDIT.

A maximum of two semester courses or three quarter courses of credit in English composition/ freshman English courses will apply toward degree requirements. Courses or examinations used to fulfill the written English requirement may not be used to satisfy the humanities requirement.

Information Literacy

All students must meet the Excelsior information literacy requirement by completing **INL 102 Information Literacy** within the first 13 Excelsior University credits attempted. Information literacy is the ability to find, evaluate, interpret, and use information legally, ethically, and effectively. This course introduces students to important knowledge and academic skills in the areas of technological and cyber literacy, the academic knowledge-creation process, library and internet research, source evaluation, reading and processing information, and writing with sources. It is aligned with Association of College and Research Libraries (ACRL) competency standards. It is a self-paced, 1-credit course designed to be taken early in a student's Excelsior experience.

The information-literate student will:

- ▶ be able to determine the nature and extent of the information needed.
- ▶ access needed information effectively and efficiently.
- ▶ evaluate information and its sources critically.
- ▶ incorporate selected information into their knowledge base and value system.
- ▶ understand many of the economic, legal, and social issues surrounding the use of information.
- ▶ access and use information ethically and legally.

Capstone

The Capstone course is designed to bring together the student's cumulative knowledge and skills to demonstrate mastery of the learning outcomes for the degree program. Through a mixture of discussions, presentations, and written analysis, students will apply their previous learning in new ways, both analyzing and synthesizing fresh perspectives on their learning.

A minimum grade of C is required in the Capstone course.

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IMPORTANT INFORMATION FOR ALL STUDENTS

Student Policies

Excelsior University student policies are important to your academic success. They include important federal policies, including your right to privacy, to grading policies and policies and procedures concerning refunds, withdrawals, and other administrative issues.

It is your responsibility to be familiar with these policies. The term “students” includes those currently matriculated at Excelsior University taking examinations and/or courses, non-matriculated students taking examinations and/or courses, non-matriculated students in the application process, individuals using the OneTranscript® service (formerly Credit Bank), formerly matriculated students currently in withdrawn status, and graduates.

The student policies are posted at: <https://www.excelsior.edu/policies/students/>.

Total Credits

You must earn a minimum of 60–67 credits for an associate degree and 120–124 credits for a bachelor’s degree. Credits must satisfy the requirements prescribed for each degree program. Some degrees may require additional credits. See [page 15](#) and [page 40](#) for general information about credit requirements for associate and bachelor’s degrees.

Any examination or course used to fulfill major requirements must be worth at least two semester hours or three quarter hours of credit.

Minimum Academic Average

You must have a cumulative grade point average (GPA) of 2.0 or better to graduate. In addition, a 2.0 GPA or better is also required in the major component of the degree.

Time to Degree Completion

Excelsior’s degree programs are designed to be completed at your own pace. However, a student attending full-time could complete:

- ▶ an associate degree in two years;
- ▶ a bachelor’s degree in four years; or
- ▶ a master’s degree in two years.

Students completing a non-Nursing undergraduate degree program have a time limit of seven years to completion with the exception of the degrees listed below (see the Nursing school catalog and Graduate school catalog for completion times for those degrees).

- ▶ Bachelor of Science in Electrical Engineering Technology, Undergraduate Studies: 10 years
- ▶ Bachelor of Science in Nuclear Engineering Technology, Undergraduate Studies: 10 years

Standardized Testing Participation

As an Excelsior University student, you have a responsibility to participate in standardized tests that may be required during the period of your enrollment. These tests may be in addition to regular coursework and are required to gather critical information on achievement of student learning. You are expected to actively participate and make every effort to do your best on these assessments. One example of this type of test is the Proficiency Profile published by the Educational Testing Service. The results from these assessments will not be part

of your grade, but are crucial for program improvement and are frequently required by regulators and accreditors. Participation in these assessments contributes toward increasing the value of your degree by providing evidence of student learning to external organizations, employers, and the general public.

- the Excelsior learning management system to access learning resources, participate in course discussions, and complete assignments.

In addition, your computer and operating systems must meet some minimal technical requirements as described in the [Excelsior University Computer System Requirements](#).

Excelsior University Website

Through the Excelsior website (excelsior.edu), you have access to a wealth of information to help you succeed as a student. If you haven't already done so, create a MyExcelsior user account. It will serve as your gateway to a variety of support services and is where you will find up-to-date information about your academic program and receive announcements from Excelsior.

Technology Literacy and Baseline Technology Skills and Resources

Excelsior University defines technology literacy as the ability to identify and responsibly use appropriate technology to communicate, solve problems, access, manage, integrate, evaluate, and create information to improve learning. This will facilitate the ability to acquire new knowledge for lifelong learning in the 21st-century global workplace.

To be successful in online learning, you will need reliable access to a computer with Internet connectivity and be able to use:

- a personal computer,
- software programs to create, edit, store and print documents,
- electronic communication tools, and search and retrieve information from electronic sources to complete assignments and activities,
- the Excelsior website to access information and resources, and

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ASSOCIATE DEGREES AT EXCELSIOR UNIVERSITY

Degree area key

Business	Health Sciences	Liberal Arts	Public Service	Technology
BUS	HS	LA	PS	TECH

For undergraduate- and graduate-level nursing degree programs, refer to the Excelsior University Nursing Catalog.

Credit Requirements for ASSOCIATE DEGREES

60–67
CREDITS

GENERAL EDUCATION AND ADDITIONAL REQUIREMENTS

Credit Hours

IND 101 Cornerstone A: Foundations

The Cornerstone course must be taken in the first term at Excelsior University and cannot be transferred in.

3

Written English Requirement

3

Ethics

3

Humanities

3

Social Sciences/History

6

Natural Sciences

2

Mathematics

2

Arts and Sciences Electives

9

INL 102 Information Literacy

1

Capstone

The Capstone course must be taken at Excelsior University and cannot be transferred in.

3

Additional collegiate-level study

Requirements vary by degree. Specific details can be found under each degree listing in this catalog.

23–30

TOTAL DEGREE CREDITS REQUIRED

60–67

This chart shows the credits required for overall degree requirements. Refer to a more detailed listing of degree requirements under the specific degree on the proceeding pages.

Credit Requirements Specific to the ASSOCIATE IN APPLIED SCIENCE IN ADMINISTRATIVE/ MANAGEMENT STUDIES

60
CREDITS

GENERAL EDUCATION AND ADDITIONAL REQUIREMENTS

Credit Hours

IND 101 Cornerstone A: Foundations

The Cornerstone course must be taken in the first term at Excelsior University and cannot be transferred in.

3

Written English Requirement

3

Ethics

3

Social Sciences/History

3

Behavioral Sciences

3

Natural Sciences

3

Mathematics

3

Arts and Sciences Electives

2

Business Component

17

Electives

16

INL 102 Information Literacy

1

Capstone

The Capstone course must be taken at Excelsior University and cannot be transferred in.

3

TOTAL DEGREE CREDITS REQUIRED

60

This chart shows the credits required specifically for the Associate in Applied Science in Administrative/Management Studies degree. Refer to [page 19](#) for more details.

Credit Requirements Specific to the **ASSOCIATE IN APPLIED SCIENCE IN TECHNICAL STUDIES**

60
CREDITS

GENERAL EDUCATION AND ADDITIONAL REQUIREMENTS

Credit Hours

IND 101 Cornerstone A: Foundations

The Cornerstone course must be taken in the first term at Excelsior University and cannot be transferred in.

3

Written English Requirement

3

Ethics

3

TECH 230 Technology and Society

3

Behavioral Sciences

3

Natural Sciences

3

Mathematics

3

Arts and Sciences Electives

2

Career Component

24

Free Electives

9

INL 102 Information Literacy

1

Capstone

The Capstone course must be taken at Excelsior University and cannot be transferred in.

3

TOTAL DEGREE CREDITS REQUIRED

60

This chart shows the credits required specifically for the Associate in Applied Science in Technical Studies degree. Refer to [page 23](#) for more details.

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Associate in Applied Science in ADMINISTRATIVE/ MANAGEMENT STUDIES

60
CREDITS

GENERAL EDUCATION AND ADDITIONAL REQUIREMENTS

Refer to chart on [page 15](#) for an overview of general education and distribution requirements for all associate degree programs.

IND 101 Cornerstone A: Foundations

The Cornerstone course must be taken in the first term at Excelsior University and cannot be transferred in.

IND 203 Introduction to Professional Ethics

DEGREE-SPECIFIC REQUIREMENTS

Behavioral Sciences

BUSINESS COMPONENT

- ▶ BUS 222 Business Communication
- ▶ ACC 211 Financial Accounting
- ▶ ACC 212 Managerial Accounting
- ▶ BUS 230 Business Law
- ▶ BUS 231 Business Data Literacy
- ▶ Business Electives

BUS 299 Business Strategy (capstone)

The Capstone course must be taken at Excelsior University and cannot be transferred in.

This chart shows degree specific requirements. These requirements will fit into total credits for the degree and will apply toward the overall credits listed on [page 14](#). Once you are enrolled, the My Academic Planner tool will specify how credits (transfer and remaining) apply.

Program Description

For the business student, Excelsior University offers a flexible program at the associate level. The program is designed for students seeking career advancement or looking to continue their studies in one of our bachelor's degree programs. This degree program comprises learning and professional skill development in the areas of business administration and/or management. The associate degree prepares students for high-growth industries, and individuals exploring careers in the following business administration areas will benefit from this degree program: personnel/office administration, recordkeeping, data entry, clerical, secretarial, word processing/typing, reception/front office administration, and customer/guest services. Moreover, individuals exploring careers in the following business management areas will benefit from this degree program: human resources/relations management, file/inventory management, personnel management, facilities/equipment management, and general management.

Graduates of the Associate in Applied Science in Administrative/Management Studies program who are interested in continuing to baccalaureate-level study should contact their advisor for advice in the preferred program of study. See chart on [page 18](#) for a graphic representation of credit required for this degree program. A description of outcomes and specific degree requirements follows.

Program Outcomes

Upon successful completion of the Excelsior University Associate in Applied Science in Administrative/Management Studies program, the graduate will be able to:

1. Recognize key management concepts, theories, and practices within the field of business.
2. Apply good judgment and business ethical reasoning to problems and scenarios that commonly arise in business organizations.
3. Apply business theories and concepts to selected business problems.
4. Communicate clearly, appropriately, and persuasively to a business audience.
5. Utilize business computer applications and information technologies to organize and interpret business data and information.
6. Apply scientific reasoning and college-level mathematics to real-world business problems.

Degree Requirements

A minimum of 60 credits is required for the Associate in Applied Science in Administrative/Management Studies, distributed as follows:

- ▶ 20 credits minimum in the arts and sciences
- ▶ 24 credits minimum in the business component
- ▶ 16 credits of electives (4 credits to include **IND 101/301 Cornerstone** and **INL 102 Information Literacy**)

Arts and Sciences Component (20 credits)

Arts and sciences are those areas of study classified as humanities, social sciences/history, and natural sciences/mathematics. The Associate in Applied Science in Administrative/Management Studies requires a minimum of 20 credits in the arts and sciences distributed as follows:

- ▶ 6 credits in the humanities, including 3 credits in English Composition to fulfill the Excelsior University written English requirement [**ENG 101 English Composition**] and 3 credits in ethics [**IND 203 Introduction to Professional Ethics**], completed with a C or better;

- ▶ 6 credits in social sciences/history, including 3 credits in behavioral sciences;
- ▶ 6 credits in natural sciences/mathematics to include 3 credits in natural sciences and 3 credits in mathematics;
- ▶ 2 credits in any arts and sciences area.

Excess credits in arts and sciences or in the business component may be applied toward electives.

Humanities

At least 6 credits must be earned in humanities subjects — 3 of those 6 credits must be earned through completion of an examination or course used to satisfy the written English requirement, and must be completed with a grade of C or better (see [page 7](#)). The remaining 3 credits must be earned in ethics with a minimum grade of C.

Social Sciences/History

At least 6 credits must be earned in social sciences/history of which 3 must be in behavioral sciences.

Social sciences/history subjects include, but are not limited to, anthropology, sociology, government, political science, psychology, geography, history, and economics.

Natural Sciences and Mathematics

At least 6 credits must be earned in natural sciences/mathematics. A minimum of 3 credits in college-level math courses and a minimum of 3 credits in natural sciences may be applied toward degree requirements.

Natural sciences/mathematics subjects include, but are not limited to, anatomy and physiology, microbiology, chemistry, biology, genetics, zoology, physics, precalculus, intermediate algebra, geometry, trigonometry, finite mathematics, astronomy, geology, and oceanography.

Arts and Sciences Electives

A maximum of 2 credits may be applied in this area.

Business Component (24 credits)

The Associate in Applied Science in Administrative/Management Studies requires 24 credits in the Business Component to include the following:

- ▶ BUS 222 Business Communication
- ▶ ACC 211 Financial Accounting
- ▶ ACC 212 Managerial Accounting
- ▶ BUS 230 Business Law
- ▶ BUS 231 Business Data Literacy
- ▶ Business Electives

BUS 299 Business Strategy (capstone) is the required capstone course included in the business component. The capstone must be completed with a grade of C or better.

Electives (16 credits)

Elective credit may be earned in any field of college study, including business and other professional, technical, or career areas, as well as in the arts and sciences. A maximum of two credits in physical education activity courses may be applied to the degree.

Additional Requirements (4 credits)

- ▶ INL 102 Information Literacy
- ▶ IND 101/301 Cornerstone course

Information Literacy

All student must meet the Excelsior University information literacy requirement by completing **INL 102 Information Literacy** within the first 13 Excelsior University credits attempted.

Cornerstone Course

All students must meet the Excelsior University Cornerstone requirement by completing **IND 101 Cornerstone A: Foundations** or **IND 301 Cornerstone B: Pathways** with a grade of C or better, in their first term of credit-bearing activity after admission to Excelsior University.

Capstone

All students must meet the Excelsior University Capstone requirement by completing the capstone course that aligns with their degree program, with a grade of C or better.

Associate in Applied Science in TECHNICAL STUDIES

60
CREDITS

GENERAL EDUCATION AND ADDITIONAL REQUIREMENTS

Refer to chart on [page 16](#) for an overview of general education and distribution requirements for all associate degree programs.

IND 101 Cornerstone A: Foundations

The Cornerstone course must be taken in the first term at Excelsior University and cannot be transferred in.

IND 203 Introduction to Professional Ethics

DEGREE-SPECIFIC REQUIREMENTS

TECH 200 Technical Writing

TECH 230 Technology and Society

CAREER COMPONENT

- ▶ IT 221 Introduction to Computing
- ▶ EGR 210 Introduction to Engineering Analysis

TECHNOLOGY CONCENTRATIONS

- ▶ Computer Technologies
- ▶ Electromechanical Technologies
- ▶ Electronic/Instrumentation Technologies
- ▶ Nuclear Technologies/Power Plant Technologies

TECH 290 Integrated Technology Assessment (capstone)

The Capstone course must be taken at Excelsior University and cannot be transferred in.

This chart shows degree specific requirements. These requirements will fit into total credits for the degree and will apply toward the overall credits listed on [page 16](#). Once you are enrolled, the [My Academic Planner](#) tool will specify how credits (transfer and remaining) apply.

Program Description

The Associate in Applied Science in Technical Studies (AAT) program focuses on preparing students to be employed as technicians in technology-related industries such as nuclear, energy, computer, electronics, and electrical. The Associate in Applied Science in Technical Studies is designed to meet the needs of students with a broad range of technical experiences and interests including those with military backgrounds that include college-level learning that takes place through military training. Specifically, the program has identified four technical concentrations that provide students with a broad professional and technical foundation in the various functional components of technology. The concentrations are a group of related college-level courses within a technical component that combine depth and breadth of study in a recognized math/science-based technology discipline. The goal of the degree program in specific concentrations is to foster the ability of students to apply what they have learned within the degree program to the real-world contexts of a technology-based industry.

The four concentrations are: **Computer Technologies**, **Electromechanical Technologies**, **Electronic/Instrumentation Technologies**, and **Nuclear Technologies/Power Plant Technologies**.

Student progress within the degree program is based on the demonstration of proficiency, and is attainable through multiple, flexible pathways — offering aggregation pathways to degree completion. In this way, the program is customizable and tailored to each student's need and learning style. Graduates of the Associate in Applied Science in Technical Studies program who are interested in continuing on to baccalaureate-level study should contact their advisor for advice on the preferred program of study. Refer to [page 25](#) to review sample concentration area subjects and technical elective subjects.

Program (Student) Outcomes

Upon successful completion of the Excelsior University Associate in Applied Science in Technical Studies program, the graduate will be able to:

1. Demonstrate effective technical oral and written communication skills.
2. Demonstrate introductory college-level proficiency in one or more of the subject areas in mathematics and/or natural sciences.
3. Demonstrate introductory college-level proficiency in one of more of the social sciences.
4. Critically examine relationships between technology and society through cultural diversity and human behavior.
5. Apply technology and problem-solving skills in the concentration area.

Degree Requirements

The Associate in Applied Science in Technical Studies requires a minimum of 60 credits, distributed as follows:

- ▶ 24 credits minimum in the arts and sciences.
- ▶ 24 credits in the career component (to include IT 221 **Introduction to Computing**, EGR 210 **Introduction to Engineering Analysis**, and TECH 290 **Integrated Technology Assessment** and the technology concentration).
- ▶ Additional requirements (12 credits):
IND 101/301 **Cornerstone** course (3 credits), INL 102 **Information Literacy** (1 credit), Technology electives (8 credits).

continued on next page

Arts and Sciences Component (24 credits)

Arts and sciences are those areas of study classified as humanities, social sciences/history, and natural sciences/mathematics. The Associate in Applied Science in Technical Studies requires a minimum of 20 credits in the arts and sciences, distributed as follows:

1. Humanities

At least 6 credits must be earned in humanities. Three credits must come from a course that satisfies the written English requirement [**ENG 101 English Composition**], completed with a grade of C or better. (see [page 7](#)). The remaining three credits must be in Ethics [**IND 203 Introduction to Professional Ethics**] earned with a grade of C or better.

2. Social Sciences/History

At least 6 credits must be earned in social sciences/history—a minimum of 3 credits in behavioral science and a minimum of 3 credits in technology and society, completed with a grade of C or better. [**TECH 230 Technology and Society**].

3. Natural Sciences/Mathematics

A least 6 credits must be earned in natural sciences/mathematics—a minimum of 3 credits in college-level math and a minimum of 3 credits in natural sciences. Some sample natural science subjects and courses are biology, chemistry, physics, and geology. Some sample math subjects and courses are intermediate algebra, college algebra, trigonometry, and statistics.

4. Arts and Sciences Electives

The remaining credits needed to satisfy the 24-credit requirement may be earned in any area of the arts and sciences.

Career Component (24 credits)

A minimum of 24 credits are required in the career component. The career component consists of 9 core component credits, and 15 concentration area credits. Credits applied to the Career Component require a grade of C or better.

Core Component (9 credits)

- ▶ Introduction to Computing
[**IT 221 Introduction to Computers**]
- ▶ Introduction to Engineering Analysis
[**EGR 210 Introduction to Engineering Analysis**]
- ▶ Integrated Technology Assessment
(*required capstone course*)
[**TECH 290 Integrated Technology Assessment**]

The TECH 290 capstone course is required and must be taken through Excelsior University. It cannot be transferred in.

Technology Concentrations (15 credits)

- ▶ Computer Technologies
- ▶ Electromechanical Technologies
- ▶ Electronic/Instrumentation Technologies
- ▶ Nuclear Technologies/Power Plant Technologies

Technical Electives (8 credits)

Only one programming course can apply toward the degree.

Additional Requirements (4 credits)

- ▶ **IND 101/301 Cornerstone Course**
- ▶ **INL 102 Information Literacy**

Information Literacy

All student must meet the Excelsior University information literacy requirement by completing **INL 102 Information Literacy** within the first 13 Excelsior University credits attempted.

Cornerstone Course

All students must meet the Excelsior University Cornerstone requirement by completing **IND 101 Cornerstone A: Foundations** or **IND 301 Cornerstone B: Pathways** with a grade of C or better, in their first term of credit-bearing activity after admission to Excelsior University.

Capstone

All students must meet the Excelsior University Capstone requirement by completing the capstone course that aligns with their degree program, with a grade of C or better.

Concentrations

COMPUTER TECHNOLOGIES

A concentration in computer technologies focuses on training and preparing students to stay up-to-date with the rapidly changing computer technology environment. The computer technologies concentration is a technical discipline centered on the design, assembly, testing, and maintenance of computer circuitry and peripheral hardware. The concentration also emphasizes the design, development, operation, and troubleshooting of computer, database, and network systems. The computer technologies outcomes are geared toward providing students with a foundational knowledge of computer technologies in a wide variety of subject areas and preparing students for positions including circuit design engineer, hardware technician, software developer, database specialist, or network engineer.

Upon successful completion of the Excelsior University Associate in Applied Science in Technical Studies with a Computer Technologies concentration, the student will be able to:

1. Use electric circuits, analog and digital electronics, software applications, and operating systems to build, test, operate, and maintain computer systems and networks.

2. Install, update, and configure computer applications software.

Required Courses

- ▶ IT 200 Hardware and Software Essentials
- ▶ IT 211 Fundamentals of Programming
- ▶ IT 250 Business Data Communication
- ▶ CYS 220 Cloud Computing and Virtualization
- ▶ Computer Technologies elective

ELECTROMECHANICAL TECHNOLOGIES

A concentration in electromechanical technologies focuses on training and preparing the students with the knowledge and practical skills in mechanical technology along with electrical and electronic circuits. It is centered on design, assembly, testing, maintenance, and upgrading of electronic and computer-integrated mechanical components and systems, such as automated manufacturing tools and engineering service equipment. The electromechanical technologies' outcomes are geared toward providing students with fundamental as well as applied knowledge in automated, servo-mechanical, or electromechanical tools, equipment, and processes. These will prepare the students for positions in operating, repairing, and upgrading unmanned submarines, aircraft, robots, or such automated equipment.

Upon successful completion of the Excelsior University Associate in Applied Science in Technical Studies with an Electromechanical Technologies concentration, the student will be able to:

1. Use circuit analysis, analog and digital electronics, basic instrumentation, and computers to aid in the characterization, analysis, and troubleshooting of electromechanical systems.
2. Use mechanics, strength of materials, engineering materials, and manufacturing processes to aid in the characterization, analysis, and troubleshooting of electromechanical systems.

continued on next page

Required Courses

- ▶ TECH 185 Blueprint Reading
- ▶ TECH 225 Applied Instrumentation and Control
- ▶ TECH 233 Electrical Power Distribution
- ▶ EGR 280 Introduction to 3-D modeling
- ▶ Electromechanical Technologies elective

ELECTRONIC/ INSTRUMENTATION TECHNOLOGIES

A concentration in electronic/instrumentation technologies focuses on training and preparing the students with the knowledge and practical skills in electrical/electronic circuits and process instrumentation. It is centered on design, assembly, testing, maintenance, and upgrading of electrical and electronic components and systems used in analytical instruments and measurements, medical technology, communications, and industrial process control. The electronic/instrumentation technologies' outcomes are geared toward providing students with fundamental as well as applied knowledge in AC, DC, and digital circuits, microprocessors, and programmable controllers. These will prepare the students for positions in operating, repairing, and upgrading process instrumentation tools, equipment, and systems.

Upon successful completion of the Excelsior University Associate in Applied Science in Technical Studies with an Electronic/Instrumentation Technologies concentration, the student will be able to:

1. Apply the concepts of automatic control, measurements, and sensor selection for the operation and testing of continuous and discrete systems.
2. Use electrical/electronic devices, computers, and instrumentation for the operation and troubleshooting of analog and digital communication systems.

Required Courses

- ▶ TECH 185 Blueprint Reading
- ▶ TECH 225 Applied Instrumentation and Control

- ▶ TECH 240 Job Task and Troubleshooting
- ▶ IT 250 Business Data Communication
- ▶ Electronic/Instrumentation Technologies elective

NUCLEAR TECHNOLOGIES / POWER PLANT TECHNOLOGIES

A concentration in nuclear technologies/power plant technologies focuses on preparing students for technician/operator positions in the nuclear industry. The nuclear technologies/power plant technologies concentration is a technical discipline centered on the design, materials, operations, and maintenance associated with radiation shielding, radiation detection instrumentation, and emergency planning for nuclear research and power generation facilities. The nuclear technologies/power plant technologies outcomes are geared toward providing students with a foundational knowledge of nuclear technologies/power plant technologies in support of technician/operator positions at nuclear facilities.

Upon successful completion of the Excelsior University Associate in Applied Science in Technical Studies with a Nuclear Technologies/Power Plant Technologies concentration, the student will be able to:

1. Apply the applicable regulations and the concepts of control performance, human interface, and quality assurance to the operation and maintenance of nuclear systems.
2. Demonstrate a proficiency in radiation protection procedures and regulations pertaining to the safe operation of nuclear systems.
3. Describe the key procedures in the recording and interpretation of measurements, start-up and shut-down of plant equipment and the maintenance of power plant systems.
4. Identify the key principles in the proper operation, testing, and troubleshooting of boilers, turbines, electric generators, pumps, and other auxiliary.

Required Courses

- ▶ TECH 250 Renewable Energy
Overview I: Solar and Geothermal
- ▶ TECH 251 Renewable Energy Overview
II: Wind and Water
- ▶ TECH 260 Energy Industry
Fundamentals
- ▶ NUC 210 Health Physics and
Radiation Protection
- ▶ NUC 240 Atomic and Nuclear Physics

Associate in Science in CRIMINAL JUSTICE

60
CREDITS

GENERAL EDUCATION AND ADDITIONAL REQUIREMENTS

Refer to chart on [page 14](#) for an overview of general education and distribution requirements for all associate degree programs.

IND 101 Cornerstone A: Foundations

The Cornerstone course must be taken in the first term at Excelsior University and cannot be transferred in.

Ethics

DEGREE-SPECIFIC REQUIREMENTS

CJ 101 Introduction to Criminal Justice

CJ 110 Introduction to Law Enforcement

CJ 120 Introduction to Corrections

CJ 228 Multicultural Issues in Criminal Justice

CJ 265 Criminal Procedure & Evidence

CJ 298 Criminal Justice Capstone

The Capstone course must be taken at Excelsior University and cannot be transferred in.

This chart shows degree specific requirements. These requirements will fit into total credits for the degree and will apply toward the overall credits listed on [page 14](#). Once you are enrolled, the My Academic Planner tool will specify how credits (transfer and remaining) apply.

Program Description

An Associate in Science in Criminal Justice integrates the theories, history, and legal and ethical issues typically covered in the study of crime and the criminal justice system. It is recommended students also complete coursework outside the criminal justice major in psychology, sociology, and communications to place their knowledge of the field in a broader social context. Graduates with an associate degree in this field are positioned to join the ranks of many agencies that require only 60 college credits to begin work. This degree will prepare students to move into a bachelor's degree to further their studies in Criminal Justice.

The Associate in Science in Criminal Justice requires 18 credits minimum with at least a 2.0 GPA.

Program Outcomes

Students who complete the Associate in Science in Criminal Justice will be able to:

- ▶ Describe the various components of the criminal justice system-legislation law enforcement, judicial, and correctional.
- ▶ Describe how decision-making influences policy and procedure.
- ▶ Explain how ethics is used in the decision-making process of the criminal justice system.
- ▶ Analyze the various forms of diversity throughout the criminal justice system.
- ▶ Describe the various criminal justice career opportunities.

Core Requirements

- A. CJ 101 Introduction to Criminal Justice
- B. CJ 110 Introduction to Law Enforcement
- C. CJ 120 Introduction to Corrections
- D. CJ 228 Multicultural Issues in Criminal Justice
- E. CJ 265 Criminal Procedure and Evidence
- F. CJ 298 Criminal Justice Capstone
A grade of C or better required.

Information Literacy

All student must meet the Excelsior University information literacy requirement by completing **INL 102 Information Literacy** within the first 13 Excelsior University credits attempted.

Cornerstone Course

All students must meet the Excelsior University Cornerstone requirement by completing **IND 101 Cornerstone A: Foundations** or **IND 301 Cornerstone B: Pathways** with a grade of C or better, in their first term of credit-bearing activity after admission to Excelsior.

Capstone

All students must meet the Excelsior University Capstone requirement by completing the capstone course that aligns with their degree program, with a grade of C or better.

Associate in Science in HEALTH SCIENCES

60
CREDITS

GENERAL EDUCATION AND ADDITIONAL REQUIREMENTS

Refer to chart on [page 14](#) for an overview of general education and distribution requirements for all associate degree programs.

IND 101 Cornerstone A: Foundations

The Cornerstone course must be taken in the first term at Excelsior University and cannot be transferred in.

Ethics (Health Care Ethics suggested; HSC 214 Ethics and the Health Care Professions)

DEGREE-SPECIFIC REQUIREMENTS

Lifespan Developmental Psychology

Natural Science Supportive of Health Sciences

CORE COMPONENT

- ▶ HSC 112 Medical Terminology
- ▶ HSC 121 Health Care in the United States
- ▶ HSC 124 Professionalism in Health Care

Health Sciences Elective Credit

HSC 292 Associate in Health Sciences (capstone)

The Capstone course must be taken at Excelsior University and cannot be transferred in.

This chart shows degree specific requirements. These requirements will fit into total credits for the degree and will apply toward the overall credits listed on [page 14](#). Once you are enrolled, the My Academic Planner tool will specify how credits (transfer and remaining) apply.

Program Description

The Associate in Science (AS) in Health Sciences is a **60-credit program** composed of courses in the arts and sciences as well as in the health sciences. The program is designed as an academic gateway for individuals pursuing a career in the health sciences or for those already working in the field who want to build on their existing knowledge and skills to advance their career.

The AS in Health Sciences program lays the foundation for continued education at the baccalaureate level. Through course work in the arts and science and health science components of the curriculum, students engage in learning that fosters information literacy, critical thinking, and effective communication and builds a strong foundation for lifelong learning and career success. Graduates of the program may apply all credits earned toward the Excelsior University **Bachelor of Science (BS) in Health Sciences** or a total of 50 credits toward the **BS in Health Care Management**.

Program Outcomes

Upon completion of the program, the graduate will be able to:

1. Demonstrate effective oral and written communication.
2. Demonstrate critical thinking skills for guiding decision-making in various health care scenarios.
3. Describe the structure and function of the health care delivery system in the United States.
4. Explain the various roles and responsibilities of health professionals.
5. Critique current trends and opportunities that improve the provision of health care.

Program Requirements

The Associate in Science in Health Sciences requires a total of 60 credits, including 30 credits in arts and sciences and 30 credits in health sciences.

Arts and Sciences Component (30 credits)

The study of the arts and sciences is an essential part of preparation for professional practice in that it contributes both knowledge and an intellectual approach to problem solving. The arts and sciences requirements ensure that the student will develop college-level competence in the areas of the humanities, social sciences/history, and natural sciences/math.

A. Written English Requirement

A minimum of 3 credits are required in expository writing, which may be at the freshman level, with a minimum grade of C. See the written English requirement section on [page 7](#) for specific details.

B. Humanities

A minimum of 6 credits must be earned in the humanities. The humanities include subjects such as art, literature, ethics, philosophy, religion, theatre, speech, and foreign languages. Students must complete **HSC 214 Ethics and the Health Professions** or an equivalent ethics course with a minimum grade of C earned.

C. Social Sciences/History

A minimum of 6 credits must be earned in the social sciences/history field. The social sciences include subjects such as geography, economics, cultural anthropology, political science, sociology, and psychology. Three credits must be earned in **Lifespan Developmental Psychology**, with a minimum grade of C.

D. Natural Sciences/Mathematics

A minimum of 6 credits must be earned in natural sciences/mathematics. A minimum of 2 credits is required in natural sciences subjects supportive of health sciences (biology, chemistry, physics, etc.) to meet the general education requirements. This credit must be earned with a grade of C or better. A minimum of 2 credits in mathematics is required.

E. Arts and Sciences Electives

The remaining 9 credits may be distributed among the arts and sciences areas of the humanities, social sciences/history, and natural sciences/mathematics.

Health Sciences Component (30 credits)

The Health Sciences component provides the student with a knowledge base in the health care field, from which to begin or build their career, and is composed of:

- ▶ **9 credits** in health sciences core courses,
- ▶ **14 credits** in health sciences electives,
- ▶ **3 credits** for the Associate Health Sciences Capstone, and
- ▶ **4 credits** for INL 102 Information Literacy and IND 101 Cornerstone A: Foundations course (4 credits)

Health Sciences Core (9 credits)

Associate in Health Sciences students must complete the following three courses with a minimum grade of C or better in order to satisfy the core requirement: **HSC 112 Medical Terminology** (3 credits), **HSC 121 Health Care in the United States** (3 credits), and **HSC 124 Professionalism in Health Care** (3 credits).

Health Sciences Electives (14 credits)

Health sciences elective credit includes coursework from fields such as: radiology, dental hygiene, cardiovascular technology, pharmacy technology, nursing, and medical laboratory technology, etc. Arts and sciences credit that is supportive of the health sciences may also be applied to this area. Additionally, health sciences elective credit may be awarded for faculty-approved licenses and certifications. Excelsior University regularly reviews other licenses and certifications in various areas of health care for which health sciences elective credit may be awarded. For more specific information, see the list of approved licenses and certifications on [page 181](#).

Health Sciences Capstone (3 credits)

HSC 292 Associate in Health Sciences Capstone must be completed at Excelsior University with a minimum grade of C. To be eligible for the capstone, students must have all other health sciences requirements complete and be within 9 credits of completing the arts and sciences component, including successful completion of the written English requirement.

Information Literacy (1 credit)

All student must meet the college's information literacy requirement by completing **INL 102 Information Literacy** within the first 13 Excelsior University credits attempted.

Cornerstone Course (3 credits)

All students must meet the college's Cornerstone requirement by completing **IND 101**

Cornerstone A: Foundations or **IND 301**

Cornerstone B: Pathways with a grade of C or better, in their first term of credit-bearing activity after admission to Excelsior University.

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Associate in Science in LIBERAL ARTS

60
CREDITS

GENERAL EDUCATION AND ADDITIONAL REQUIREMENTS

Refer to chart on [page 14](#) for an overview of general education and distribution requirements for all associate degree programs.

IND 101 Cornerstone A: Foundations

The Cornerstone course must be taken in the first term at Excelsior University and cannot be transferred in.

Ethics

DEGREE-SPECIFIC REQUIREMENTS

LA 298 Associate Degree Capstone

The Capstone course must be taken at Excelsior University and cannot be transferred in.

This chart shows degree specific requirements. These requirements will fit into total credits for the degree and will apply toward the overall credits listed on [page 14](#). Once you are enrolled, the [My Academic Planner](#) tool will specify how credits (transfer and remaining) apply.

Program Description

The Associate in Science in Liberal Arts is an entry-level liberal arts program in which up to half of the credits can be applied professional. For students, whose interests and goals include the traditional arts and sciences realms of humanities, social sciences, history, natural sciences, and/or mathematics, or who seek to complete an associate's degree for job qualification or promotion and intend eventually to go on to the baccalaureate level, the Associate in Liberal Arts degree may be more appropriate than a structured pre-professional degree in a specific discipline. The requirements for the General Education component of any Excelsior University degree fit the plan of the Associate in Science in Liberal Arts, and all credits are transferable to the Bachelor of Science in Liberal Arts.

Program Outcomes

1. **Critical Thinking**
Effectively communicate orally and in writing to a targeted audience.
2. **Communication**
Identify issues of cultural diversity and how they impact different global communities.
3. **Diversity**
Integrate information from diverse sources to solve problems and achieve goals.
4. **Ethics**
Research an ethical dilemma and articulate findings from multiple perspectives.
5. **Strategies**
Identify strategies for continuing education within a chosen professional career.

Degree Requirements

The Associate in Science requires a total of **60 credits**, distributed as follows:

- ▶ 30 credits minimum in the arts and sciences
- ▶ 30 credits minimum in applied professional and/or additional arts and sciences credit

Refer to the chart on [page 34](#) for a graphic representation of the minimum credits necessary along with the credit distribution requirements for this degree program.

Arts and Sciences Component (30 credits)

Arts and sciences are those areas of study classified as humanities, social sciences/history, and natural sciences/mathematics. The Associate in Science requires a minimum of 30 credits in the arts and sciences distributed as follows:

- A. **Written English Requirement: 3 credits**
(minimum grade of C required)
- B. **General Education Requirement:**
18-credit minimum of which 6 credits are required in each of the three distribution areas: humanities, social sciences/history, and natural sciences/mathematics. Within the natural sciences/math distribution, at least 2 credits must be earned in college-level mathematics and 2 credits in the natural sciences. The humanities distribution must include at least 2 credits in ethics with a minimum grade of C, and at least one 3-credit course in a humanities discipline (see [page 5](#) for details).
- C. **Arts and Sciences Electives: 6 credits**
- D. **Associate Degree Capstone: 3 credits**
(minimum grade of C required)

continued on next page

Other Requirements (30 credits)

- ▶ **INL 102 Information Literacy**
1 credit
- ▶ **IND 101 Cornerstone A: Foundations (cornerstone course):** 3 credits
The Cornerstone course must be taken in the first term at Excelsior University and cannot be transferred in.
- ▶ **Applied Professional and/or Additional Arts and Sciences Credits:** 29 credits

Information Literacy

All student must meet the college's information literacy requirement by completing **INL 102 Information Literacy** within the first 13 Excelsior University credits attempted.

Cornerstone Course

All students must meet the college's Cornerstone requirement by completing **IND 101 Cornerstone A: Foundations** or **IND 301 Cornerstone B: Pathways** with a grade of C or better, in their first term of credit-bearing activity after admission to Excelsior University.

Capstone

All students must meet the college's Capstone requirement by completing the capstone course that aligns with their degree program, with a grade of C or better.

BACHELOR’S DEGREES AT EXCELSIOR UNIVERSITY

Program chart color code key

Business	Health Sciences	Liberal Arts	Public Service	Technology
BUS	HS	LA	PS	TECH

For undergraduate- and graduate-level nursing degree programs, refer to the Excelsior University Nursing Catalog.

Credit Requirements For BACHELOR OF SCIENCE DEGREES

**120–124
CREDITS**

GENERAL EDUCATION AND ADDITIONAL REQUIREMENTS

Credit Hours

IND 101 Cornerstone A: Foundations or IND 301 Cornerstone B: Pathways
The cornerstone course must be taken in the first term at Excelsior University and cannot be transferred in.

3

Written English Requirement

6

Humanities
Includes Ethics

9

Social Sciences/History

9

Natural Sciences

2

Mathematics

2

Natural Sciences or Mathematics

5

Additional Arts and Sciences

27

INL 102 Information Literacy

1

Capstone

The Capstone course must be taken at Excelsior University and cannot be transferred in.

3

Additional collegiate-level study
Requirements vary by degree. Specific details can be found under each degree listing in this catalog.

53–57

TOTAL DEGREE CREDITS REQUIRED

120–124

This chart shows the credits required for overall degree requirements. Refer to a more detailed listing of degree requirements under the specific degree on the proceeding pages.

Credit Requirements Specific to the BACHELOR OF PROFESSIONAL STUDIES

120
CREDITS

GENERAL EDUCATION AND ADDITIONAL REQUIREMENTS

Credit Hours

IND 101 Cornerstone A: Foundations or IND 301 Cornerstone B: Pathways
The cornerstone course must be taken in the first term at Excelsior University and cannot be transferred in.

3

Written English Requirement

6

Ethics

3

Humanities

6

Social Sciences/History

6

Natural Sciences

3

Mathematics

6

Professional Component

42

Elective

41

INL 102 Information Literacy

1

Capstone

The Capstone course must be taken at Excelsior University and cannot be transferred in.

3

TOTAL DEGREE CREDITS REQUIRED

120

This chart shows the credits required specifically for the Bachelor of Professional Studies degrees. Refer to [page 40](#) and [page 44](#) for more details.

Bachelor of Professional Studies in BUSINESS AND MANAGEMENT

120
CREDITS

GENERAL EDUCATION AND ADDITIONAL REQUIREMENTS

Refer to chart on [page 39](#) for an overview of general education and distribution requirements for all bachelor's degree programs.

IND 101 Cornerstone A: Foundations or IND 301 Cornerstone B: Pathways

The cornerstone course must be taken in the first term at Excelsior University and cannot be transferred in.

DEGREE-SPECIFIC REQUIREMENTS

BUS 323 Business Ethics

College Algebra or Statistics

BUS 490 Integrated Business and Management Assessment (capstone)

The capstone course must be taken at Excelsior University and cannot be transferred in.

PROFESSIONAL COMPONENT

PROFESSIONAL CORE REQUIREMENTS

- ▶ BUS 341 Management Concepts and Applications
- ▶ BUS 452 Business Leadership
- ▶ ACC 211 Financial Accounting or ACC 212 Managerial Accounting
- ▶ IT 221 Introduction to Computers
- ▶ IT 390 Project Management

BUSINESS AND MANAGEMENT CORE REQUIREMENTS

- ▶ BUS 312 Managing Human Resources
- ▶ BUS 351 Marketing Concepts and Application
- ▶ BUS 350 Principles of Finance
- ▶ BUS 311 Organizational Behavior
- ▶ BUS 435 International Business

PROFESSIONAL COMPONENT ELECTIVES

- ▶ Any business/management-related credits outside the core are applied as professional component electives.

ELECTIVE CREDIT COMPONENT

Credits in free elective to include credits from the arts and sciences, business, or any approved free elective area.

This chart shows degree specific requirements. These requirements will fit into total credits for the degree and will apply toward the overall credits listed on [page 39](#). Once you are enrolled, the My Academic Planner tool will specify how credits (transfer and remaining) apply.

Program Description

The Bachelor of Professional Studies in Business and Management is a flexible career-oriented program developed to serve the needs of students who want to build upon their existing knowledge and earn a bachelor's degree within their career field.

The structure and flexibility of the Bachelor of Professional Studies (BPS) in Business and Management makes it an excellent educational next step for graduates of Excelsior University associate in applied science programs in business and technology. As with other bachelor's programs, credit is awarded for Excelsior University courses, courses taken at accredited institutions other than Excelsior, approved proficiency exams, approved military training, and programs and courses approved for credit by the American Council on Education (ACE) or the New York State Board of Regents National College Credit Recommendation Service (formerly known as National PONS).

The Excelsior University BPS degree is an attractive option for students who seek to apply credit for military and other training toward a bachelor's degree. Additionally, the BPS degree is an attractive option for military spouses and for veterans and DOD civilians who have completed government-sponsored training that has been evaluated for college credit by ACE.

Of the total 120 credits for the Bachelor of Professional Studies in Business and Management, 30 must be earned at the upper level, 9 in the arts and sciences, 15 in the professional component and 6 in electives.

Specialized Accreditation/Recognition: *The Bachelor of Professional Studies in Business and Management is accredited by the International Accreditation Council for Business Education (IACBE), 11374 Strang Line Rd., Lenexa, KS 66215.*

Program Educational Objectives

Upon successful completion of the Excelsior University Bachelor of Professional Studies in Business and Management program, the graduate will be able to:

1. Apply discipline-specific concepts and methodologies to identify, analyze, and solve business problems.
2. Demonstrate desire and commitment to remain current with and adaptive to changing business conditions through continuous learning and self-improvement.
3. Demonstrate independent and critical thinking, function effectively in team-oriented settings, and maintain a high level of performance in a professional business environment.
4. Communicate effectively, orally and in writing, in a professional business environment.
5. Behave ethically and professionally in business and society.
6. Demonstrate and utilize leadership principles in one's chosen career field.

Program Outcomes

1. Apply basic accounting concepts and principles to the analysis and interpretation of corporate financial statements.
2. Explain how modern marketing concepts and theories support and influence business strategies.
3. Utilize financial management concepts and tools in order to make informed business decisions.
4. Apply the major concepts and theories of management to develop business strategies in a real-world context.
5. Analyze the opportunities and risks associated with doing business in a global environment.
6. Employ organizational theories and concepts to explain the impact of the organizational environment on management practices and employee relations.
7. Analyze various leadership approaches and their application to different organizational contexts.
8. Apply project management tools and techniques in a business environment.

9. Effectively communicate strategic management concepts orally and in writing to multiple audiences.
10. Apply various information technologies to support business strategies.
11. Justify decisions by evaluating the social, ethical, and legal implications for business organizations.
12. Apply knowledge of business concepts and functions in an integrated manner.

Degree Requirements

Every Excelsior University degree program requires a specific number of credits in each of its component areas. The chart relevant to your degree program shows a graphic representation of the credit needed to fulfill all the requirements for your chosen degree.

The Excelsior University Bachelor of Professional Studies in Business and Management program comprises three major components: arts and sciences, professional, and elective credit. The three components and their respective requirements are explained in the following sections.

A grade of “C” or higher is required for all Professional Component core requirements, the written English requirement (both courses), Precalculus Algebra, Statistics, and Ethics.

Arts and Sciences Component (30 credits, including 9 upper-level)

Excess credits in arts and sciences may be applied toward electives.

A. Written English Requirement

At least 6 credits must come from courses that satisfy the written English requirement [ENG 101 English Composition and ENG 202 Business Writing] (see [page 8](#)).

B. Humanities

You must successfully complete at least 9 credits in the humanities (must include Ethics) [BUS 323 Business Ethics]. Ethics must be completed with a grade of C or better.

Humanities subjects include, but are not limited to, art, music, literature, foreign language, philosophy, religion, speech, and creative/

advanced writing.

Examinations or courses used to satisfy the written English requirement may not be applied toward the humanities requirement.

C. Social Sciences/History

You must successfully complete a minimum of 6 credits in the social sciences/history. This is an exception to the general education requirements for a minimum of 9 credits in social sciences/history.

Social sciences/history subjects include, but are not limited to, anthropology, sociology, government, political science, psychology, geography, history, and economics.

D. Natural Sciences and Mathematics

You must successfully complete a minimum of 6 credits in mathematics to include a 3-credit course in either College Algebra [MAT 114 Intermediate Algebra, MAT 116 Precalculus Algebra] or Statistics [BUS 231 Business Data Literacy].

You must successfully complete a minimum of 3 credits in natural sciences [BIO 110 Biology (Non-Lab), GEOL 108 Earth Science and Society, GEOL 114 Introduction to Oceanography, PHYS 201–203 Physics I–II, NS 110 Science in Today’s World].

Natural sciences and mathematics subjects include, but are not limited to, anatomy and physiology, microbiology, chemistry, biology, genetics, zoology, physics, precalculus, calculus, astronomy, geology, oceanography, etc.

Only three college-level math courses below the level of calculus may be applied to degree requirements.

Professional Component

(45 credits, including 15 upper-level)

The professional component includes a professional core that helps you gain basic knowledge in business administration and the underlying discipline of decision making, and a business and management core and professional electives that allow you to apply and synthesize this knowledge through the study of various business content areas. At least 15 credits at the upper (junior/senior) level must be completed in the professional component; 9 of these upper-level credits must

be in the business and management core and/or professional component electives. Credits may be earned through Excelsior University courses and examinations and those completed through other approved sources, as well as approved military and business and industry training.

Professional Core Requirements

One course required in each professional core area below.

- ▶ General Management: [BUS 341 **Management Concepts and Applications**]
- ▶ Leadership: [BUS 452 **Business Leadership**]
- ▶ Accounting: [ACC 211 **Financial Accounting**, ACC 212 **Managerial Accounting**]
- ▶ Computer Applications: [IT 221 **Introduction to Computers**]
- ▶ Project Management: [IT 390 **Project Management**]

Business and Management Core (9 upper-level credits)

One course required in each business and management core area below.

- ▶ Human Resources Management : [BUS 312 **Managing Human Resources**]
- ▶ Marketing: [BUS 351 **Marketing Concepts and Application**]
- ▶ Finance: [BUS 350 **Principles of Finance**]
- ▶ Organizational Behavior : [BUS 311 **Organizational Behavior**]
- ▶ Global Business : [BUS 435 **International Business**]
- ▶ Integrated Business and Management Assessment Capstone: [BUS 490 **Integrated Business and Management Assessment**]

Professional Component Electives (6 upper level credits)

Any business/management-related credits outside the core are applied as professional component electives. Business/management credits in excess of the professional component maximum of 45 may be applied to the additional credit component [INT 401 **Professional Experience**].

Elective Credit Component (45 credits)

Although you may have already fulfilled the minimum credit requirements in the arts and sciences and professional components of your degree, you may still need to earn additional credit to fulfill the total credit requirement of the Bachelor of Professional Studies. To do this, you may apply any of the following: arts and sciences credit above the minimum required, professional component credit (business/management) above the minimum required, or free elective credit.

Free elective credit may be earned in any field of collegiate study, including business and other professional, technical, or career areas as well as the arts and sciences. Examples include military science, health, nursing, engineering, education, computer science, home economics, secretarial science, architecture, drafting, auto mechanics, law, social work, and criminal justice. A maximum of 2 credits for physical education activity courses may be applied.

Information Literacy Requirement

All students are expected to demonstrate competency in information literacy by completing the INL 102 **Information Literacy** course. See [page 9](#) for more information about the information literacy requirement. The information literacy requirement is applied to the additional credit component.

Cornerstone Course

All students must meet the Excelsior University Cornerstone requirement by completing **IND 101 Cornerstone A: Foundations** or **IND 301 Cornerstone B: Pathways** with a grade of C or better, in their first term of credit-bearing activity after admission to Excelsior University.

Capstone

All students must meet the Excelsior University Capstone requirement by completing the capstone course that aligns with their degree program, with a grade of C or better.

Bachelor of Professional Studies in TECHNOLOGY MANAGEMENT

120
CREDITS

GENERAL EDUCATION AND ADDITIONAL REQUIREMENTS

Refer to chart on [page 39](#) for an overview of general education and distribution requirements for all bachelor's degree programs.

IND 101 Cornerstone A: Foundations or IND 301 Cornerstone B: Pathways

The Cornerstone course must be taken in the first term at Excelsior University and cannot be transferred in.

DEGREE-SPECIFIC REQUIREMENTS

BUS 323 Business Ethics

College Algebra or Statistics

PROFESSIONAL CORE

- ▶ BUS 341 Management Concepts and Applications
- ▶ BUS 452 Business Leadership
- ▶ ACC 211 Financial Accounting
- ▶ IT 221 Introductions to Computers
- ▶ IT 390 Project Management

TECHNOLOGY MANAGEMENT CORE

- ▶ TECH 230 Technology and Society
- ▶ TECH 330 Economic Analysis for Technologists
- ▶ TECH 340 Intro to Energy Utilization

Professional Component Electives

At least 15 credits in electives must be in one of the following areas: [Electrical Technology](#), [Information Technology](#), [Nuclear Technology](#), or [Renewable Energy Technology](#)

TECH 490 Technology Management Capstone: Integrated Technology Assessment

The Capstone course must be taken at Excelsior University and cannot be transferred in.

This chart shows degree specific requirements. These requirements will fit into total credits for the degree and will apply toward the overall credits listed on [page 39](#). Once you are enrolled, the [My Academic Planner](#) tool will specify how credits (transfer and remaining) apply.

Program Description

The Bachelor of Professional Studies in Technology Management is a flexible career-oriented program developed for students who want to build upon their knowledge and earn a bachelor's degree within their technical field. The program puts special emphasis on developing the knowledge, skills, attitudes, and values required for a technical person to meet the demands of a 21st-century workforce. To do this, the program has identified 10 different outcomes, that provide students with a broad professional foundation in the various functional components of technology and management, as well as with a strong liberal base to ensure students have academic breadth and the commitment to lifelong learning needed to adapt to and succeed in an ever-changing world. Additionally, the program has identified four technical concentrations that provide students with a broad professional and technical foundation in the various functional components of technology. The concentrations are a group of related college-level courses within a technical component that combine depth and breadth of study in a recognized math/science-based technology discipline. The goal of the degree program in specific concentrations is to foster the ability of students to apply what they have learned within the degree program to the real-world contexts of a technology-based industry.

Of the total 120 credits for the Bachelor of Professional Studies in Technology Management, 30 must be earned at the upper level, 9 in the arts and sciences, 15 in the technology component and 6 in electives.

The four concentrations are: **Electrical Technology**, **Information Technology**, **Nuclear Technology**, and **Renewable Energy Technology**.

Student progress within the degree program is based on the demonstration of proficiency, and is attainable through multiple, flexible pathways—offering course-based, prior learning assessment, and credit aggregation pathways to degree completion. In this way, the program is customizable and tailored to each student's need and learning style. The Bachelor of Professional Studies in Technology Management is an option for students who seek to apply credit for military and other training toward a bachelor degree.

Program (Student) Outcomes

The outcomes are geared toward providing students with a foundational knowledge of professional studies in technology management and the discipline of effective decision making in the technology industry.

Upon successful completion of the degree program, students will be able to:

1. Apply knowledge of mathematics and natural sciences to problem-solving in technology management contexts.
2. Develop cohesive written and oral arguments in your technical concentration using appropriate supporting evidence.
3. Critically evaluate and propose solutions for technology management problems.
4. Critically evaluate the ethical, legal, and social implications associated with the management of technology in your concentration field.
5. Participate effectively in diverse teams to address technical issues in your technology concentration.
6. Apply project management tools and techniques to plan, manage, and close a project in the applicable technology field.
7. Apply computer applications or computer software packages to solve technical problems in your technical concentration.
8. Apply technological and management concepts in an integrated manner using both local and global perspective.
9. Employ critical thinking skills to interpret and analyze competing arguments and multiple perspectives in a technology environment.
10. Evaluate your individual strengths and weaknesses with the desire to update skills and continuously improve.

Degree Requirements

The Excelsior University Bachelor of Professional Studies in Technology Management program requires a total of 120 credits and comprises three major components — arts and sciences, professional, and additional credit. The three components and their respective requirements are explained in the following sections.

- ▶ **30 credits** minimum required in the arts and sciences
- ▶ **45 credits** minimum required in the professional component
- ▶ **45 credits** required in the additional credit component (to include **INL 102 Information Literacy**)

Arts and Sciences Component

(30 credits, including 9 upper-level)

Excess credits in arts and science may be applied toward the additional credit component as electives.

A. Written English Requirement

At least 6 credits must come from courses or exams that satisfy the written English requirement (see [page 8](#)) [**ENG 101 English Composition**, **ENG 102 English Composition II**, **ENG 312 Scientific and Technical Writing**]. Minimum grade of C required.

B. Humanities

You must successfully complete at least 9 credits in the humanities, including ethics [**BUS 323 Business Ethics**]. Ethics must be completed with a grade of C or better.

Humanities subjects include, but are not limited to, art, music, literature, foreign language, philosophy, religion, speech, creative writing, and advanced writing. Examinations or courses used to satisfy the written English requirement may not be applied toward the humanities requirement.

C. Social Sciences/History

You must successfully complete a minimum of 6 credits in social sciences/history. Social sciences and history subjects include, but are not limited to, anthropology, sociology, government,

political science, psychology, geography, history, and economics.

D. Natural Sciences/Mathematics

You must successfully complete a minimum of 6 credits in mathematics to include a 3-credit course in college algebra [**MAT 114 Intermediate Algebra**, **MAT 116 Precalculus Algebra**] or Statistics [**BUS 231 Business Data Literacy**].

You must successfully complete a minimum of 3 credits in natural sciences [**BIO 110 Biology (Non-Lab)**, **GEOL 108 Earth Science and Society**, **GEOL 114 Introduction to Oceanography**, **PHYS 201–203 Physics I–II**]. Natural sciences subjects include, but are not limited to, astronomy, geology, oceanography, anatomy and physiology, microbiology, chemistry, biology, genetics, zoology, and physics. Mathematics courses include intermediate algebra, precalculus, calculus, etc.

Only three college-level math courses below the level of calculus may be applied to degree requirements.

Professional Component

(45 credits, including 15 upper-level)

The professional component includes a professional core that helps you gain basic knowledge in business administration and the underlying discipline of decision making, and a technology management core and professional component electives that allow you to apply and synthesize your technical knowledge in one of four concentration areas—electrical technology, information technology, nuclear technology, and renewable energy technology. A minimum of 15 credits is required in the concentration areas.

At least 15 credits at the upper (junior/senior) level must be completed in the professional component; 9 of these upper-level credits must be in the technology management core and/or professional component electives. Credits may be earned through Excelsior University courses and other approved sources, as well as approved military, business, and industry training. A grade of C or better is required for applicable credit.

Professional Core Requirements

One course required in each professional core area below.

1. General Management
[BUS 341 Management Concepts and Applications]
2. Leadership
[BUS 452 Business Leadership]
3. Accounting
[ACC 211 Financial Accounting]
4. Computer Applications
[IT 221 Introduction to Computers]
5. Project Management
[IT 390 Project Management]

Technology Management Core Requirements

(9 upper-level credits must be in Technology Management Core or Professional Electives)

One 3-credit course required in each technology management core area below.

1. Technology and Society
[TECH 230 Technology and Society]
2. Engineering Economics
[TECH 330 Economic Analysis for Technologists]
3. Introduction to Energy Utilization
[TECH 340 Intro to Energy Utilization]
4. Integrated Technology Assessment (capstone)
[TECH 490 Technology Management Capstone: Integrated Technology Assessment—the capstone course is required and must be taken through Excelsior University and cannot be transferred in.]

Concentration Areas

- **Electrical Technology**
- **Information Technology**
- **Nuclear Technology**
- **Renewable Energy Technology**

Students must select a concentration area in one of four areas: electrical technology, information technology, nuclear technology and renewable energy technology. A minimum of 15 credits must be earned in the concentration area.

Concentrations

ELECTRICAL TECHNOLOGY

A concentration in electrical technology focuses on training and preparing students with the knowledge and practical skills in electrical technology along with electrical circuits, electrical systems, and electrical equipment. It is centered on design, assembly, testing, maintenance, repairing, and upgrading of electrical circuits, components, and equipment. The electrical technology outcomes are geared toward providing students with fundamental as well as applied knowledge in electrical systems, electrical equipment, and processes. These will prepare the students for positions in operating, repairing, and upgrading electrical circuits, electrical systems, and electrical equipment. Upon successful completion of the Excelsior University Bachelor of Professional Studies with an Electrical Technology concentration, the student will be able to:

1. Identify, formulate, and present solutions to a variety of technical problems in the area of electrical technology.
2. Demonstrate competency in the analysis, interpretation, and application of data in the area of electrical technology.

Suggested Courses

- **ELEC 331 Digital and Analog Communications**
- **NUC 255 AC/DC Theory**
- **TECH 225 Applied Instrumentation and Control**
- **TECH 233 Electrical Power Distribution**
Three additional credits must be earned in Electronic/Instrumentation Technologies Subjects.

continued on next page

INFORMATION TECHNOLOGY

A concentration in information technology focuses on training and preparing students to stay up-to-date with the rapidly changing technical environment. The information technology concentration is a technical discipline centered on the design, assembly, testing, and maintenance of computer circuitry and peripheral hardware. The concentration also emphasizes the information system concepts, principles, and practices, and problem solving of information technology domains. The information technology outcomes are geared toward providing students with a foundational knowledge of information technology in a wide variety of subject areas and preparing students for positions including information technicians, database management systems, software management, data communications, information security, and network management. Upon successful completion of the Excelsior University Bachelor of Professional Studies with an Information Technology concentration, the student will be able to:

1. Analyze and apply a range of information system concepts, principles, and practices in the context of solving problems across a spectrum of information technology domains.
2. Develop computer-based applications using appropriate information technology concepts and principles.

Suggested Courses

- ▶ IT 250 Business Data Communication
- ▶ IT 370 Database Management Systems
- ▶ IT 371 Web Design and Development
- ▶ IT 380 Overview of Computer Security
- ▶ IT 211 Fundamentals of Programming
- ▶ IT 418 Software Systems Analysis and Design

Only one computer programming course will be accepted as Professional Component.

NUCLEAR TECHNOLOGY

A concentration in nuclear technology focuses on preparing students for technical background in the nuclear industry. The nuclear technology concentration is a technical discipline centered on the design, materials, operations, and maintenance associated with radiation shielding, radiation detection instrumentation, and emergency planning for nuclear research and power generation facilities. The nuclear technology concentration is geared toward providing students with a foundational knowledge of nuclear technology for positions at nuclear facilities. Upon completion of the Excelsior University Bachelor of Professional Studies with a Nuclear Technology concentration, the students will be able to:

1. Demonstrate a proficiency in the operation and maintenance of nuclear processes and systems.
2. Demonstrate a proficiency in the applicable rules, regulations, and procedures pertaining to radiological safety and radiation protection.
3. Identify the key principles in the proper operation, testing, and troubleshooting of turbines, electric generators, pumps, and other auxiliary plant equipment.

Suggested Courses

- ▶ NUC 250 Introduction to Heat Transfer and Fluid Mechanics
- ▶ NUC 330 Reactor Core Functions
- ▶ NUC 350 Plant Systems Overview
- ▶ Six additional credits must be earned in Nuclear Technologies Subjects.

RENEWABLE ENERGY TECHNOLOGY

A concentration in renewable energy technology focuses on training and preparing students to stay current with the renewable energy industry. The renewable energy technology concentration is a technical discipline centered on renewable energies such as solar,

wind, water, and geothermal. The concentration also emphasizes the political and economic influences on the renewable energy business. The renewable energy technology outcomes are geared toward providing students with a foundational knowledge of renewable energy in a wide variety of subject areas and preparing students for positions in the renewable energy industry including an understanding of economics and politics associated with renewable energy. Upon successful completion of the Excelsior University Bachelor of Professional Studies with a Renewable Energy Technology concentration, the student will be able to:

1. Identify and discuss renewable energy technologies being used commercially and residentially.
2. Perform an analysis of political and economic influences on the renewable energy business.

Required Courses

- NUC 260 Power Plant Components
- TECH 233 Electrical Power Distribution
- TECH 250 Renewable Energy Overview I
- TECH 251 Renewable Energy Overview II
- TECH 260 Energy Industry Fundamentals

Professional Component Electives

Any technology-related credits outside the core are applied as professional component electives.

Technology management credits in excess of the professional component maximum of 45 may be applied to the additional credit component.

Additional Credit Component

(45 credits, including 6 upper-level)

Although you may have already fulfilled the minimum credit requirements in the arts and sciences and professional components of your degree, you may still need to earn

additional credit to fulfill the total credit requirement of your Bachelor of Professional Studies in Technology Management. To do this, you may apply any of the following: arts and sciences credit above the minimum required, professional component credit (technology/management) above the minimum required, or free elective credit.

Free elective credit may be earned in any field of collegiate study, including business and other professional, technical, or vocational areas as well as the arts and sciences. Examples include military science, health, nursing, engineering, education, computer science, home economics, secretarial science, architecture, drafting, auto mechanics, law, social work, and criminal justice. A maximum of 2 credits for physical education activity courses may be applied.

Information Literacy Requirement (1 credit)

Students are expected to demonstrate competency in information literacy [INL 102 Information Literacy]. See [page 9](#) for more information about this requirement. The information literacy requirement is applied to the additional credit component.

Cornerstone Course

All students must meet the Excelsior University Cornerstone requirement by completing **IND 101 Cornerstone A: Foundations** or **IND 301 Cornerstone B: Pathways** with a grade of C or better, in their first term of credit-bearing activity after admission to Excelsior University.

Capstone

All students must meet the Excelsior University Capstone requirement by completing the capstone course that aligns with their degree program, with a grade of C or better.

BACHELOR OF SCIENCE IN BUSINESS

120
CREDITS

GENERAL EDUCATION AND ADDITIONAL REQUIREMENTS

Refer to chart on [page 38](#) for an overview of general education and distribution requirements for all bachelor's degree programs.

IND 101 Cornerstone A: Foundations or IND 301 Cornerstone B: Pathways

The Cornerstone course must be taken in the first term at Excelsior University and cannot be transferred in.

DEGREE-SPECIFIC REQUIREMENTS (At least 21 upper level business credits)

BUS 323 Business Ethics	BUS 230 Business Law
ECO 260 Introduction to Microeconomics	IT 221 Introduction to Computers
ECO 262 Introduction to Macroeconomics	BUS 222 Business Communication
College Algebra or above	BUS 341 Management Concepts and Applications
BUS 231 Business Data Literacy	BUS 351 Marketing Concepts and Applications
BUS 311 Organizational Behavior	BUS 350 Principles of Finance
BUS 431 Business Data Analysis	BUS 435 International Business
ACC 211 Financial Accounting	Business Electives
ACC 212 Managerial Accounting	

CONCENTRATION OPTIONS

General Accounting, Finance, General Business, Logistics Management, Management of Human Resources, or Marketing (at least 9 upper level credits)

BUS 499 Strategic Management Capstone

The Capstone course must be taken at Excelsior University and cannot be transferred in.

This chart shows degree specific requirements. These requirements will fit into total credits for the degree and will apply toward the overall credits listed on [page 38](#). Once you are enrolled, the My Academic Planner tool will specify how credits (transfer and remaining) apply.

Program Description

The Bachelor of Science in Business is a competency-based degree program focused on preparing students to become business managers and leaders. The program puts special emphasis on developing the knowledge, professional skills, attitudes, and values required for a business person to meet the demands of a 21st-century workforce. To do this, the program emphasizes 15 competency areas that provide students with a broad professional foundation in the functional components of business, as well as with a strong liberal arts base to ensure students have academic breadth and the commitment to lifelong learning needed to adapt to and succeed in an ever-changing world. The integration of all 15 competency areas allows students to apply what they have learned within the degree program to the real-world contexts of the business world.

Student progress within the degree program is based on the demonstration of proficiency, and is attainable through multiple flexible pathways—online courses, credit by exam, and credit aggregation. These avenues can be used in the combination best suited to the preferences of the student. The course option provides a pathway for students who desire a structured, instructor-led classroom experience. The exam experience provides students with an independent study option, where grades are solely determined by their performance on an exam. Study for the exams is supported by free open educational resources. Finally, students have the opportunity to earn credits elsewhere and transfer them into the degree program to satisfy requirements. Each of these pathways allow students to customize and tailor the program to their own needs and learning styles.

Of the total 120 credits for the Bachelor of Science in Business, 21 upper level credits must be earned in Business.

Specialized Accreditation/Recognition: *The Bachelor of Science in Business is accredited by the International Accreditation Council for Business Education (IACBE), 11374 Strang Line Rd., Lenexa, KS 66215.*

Program Educational Objectives

As an Excelsior University bachelor's-level business graduate, within a few years of graduation, you are expected to:

1. Apply discipline-specific concepts and methodologies to identify, analyze, and solve business problems.
2. Demonstrate a desire and commitment to remain current with and adaptive to changing business conditions through continuous learning and self-improvement.
3. Demonstrate independent and critical thinking, function effectively in team-oriented settings, and maintain a high level of performance in a professional business environment.
4. Communicate effectively, orally and in writing, in a professional business environment.
5. Behave ethically and professionally in business and society.
6. Demonstrate and utilize leadership principles in one's chosen career field.

Program Competencies

The competencies provide students with a foundational knowledge of business administration and strategic management. Upon completion of the degree program, students will be able to achieve the following in these competency areas:

1. **Economics**
Apply micro and macroeconomic concepts and theories to explain the relationship between legal, social, and economic interests of individuals and society.
2. **Accounting**
Apply basic accounting concepts and principles to the analysis and interpretation of corporate financial statements.
3. **Marketing**
Explain how modern marketing concepts and theories support and influence business strategies.
4. **Finance**
Utilize financial management concepts and tools to make informed business decisions.

5. Management

Apply the major concepts and theories of management and leadership in order to develop business strategies in a real-world context.

6. Quantitative Analysis

Utilize quantitative research, statistics, and data analysis to analyze business data, support business decisions, and solve problems.

7. Global

Analyze the opportunities and risks associated with doing business in a global environment.

8. Ethics

Justify decisions by evaluating the social, ethical, and legal implications for business organizations.

9. Communication

Effectively communicate business concepts orally and in writing to multiple audiences.

10. Computer Skills

Utilize business computer applications and information technologies to organize and interpret business data and information.

11. Teamwork/Cultural Diversity

Work effectively and collaboratively on diverse teams to complete projects based on real-world scenarios.

12. Critical Thinking

Employ critical thinking skills to interpret and analyze competing arguments and perspectives in a business environment.

13. Leadership

Organize tasks and understand how to delegate responsibility in order to complete collaborative projects in a timely manner.

14. Lifelong Learning

Evaluate their individual strengths and weaknesses with the desire to update skills and continually improve.

15. Business Strategy

Apply knowledge of business concepts and functions in an integrated manner to make strategic decisions in a real-world context.

Degree Requirements

The Bachelor of Science in Business (with concentration) requires a minimum of 120 credits, distributed as follows:

- ▶ 60 credits minimum in the arts and sciences
- ▶ 51 credits minimum in the business component
- ▶ 9 credits in the elective credit component

Arts and Sciences Component (60 credits)

Arts and sciences are those areas of study classified as humanities, social sciences/history, and natural sciences and mathematics. Excelsior University business degrees require a minimum number of credits in humanities and social sciences/history as part of the arts and sciences component:

- ▶ 6-credit written English requirement, completed with a minimum grade of C [ENG 101 English Composition, ENG 202 Business Writing].
- ▶ 9 credits in humanities (must include Ethics). Ethics must be completed with a grade of C or better.
- ▶ 15 credits in social sciences/history (must include microeconomics and macroeconomics)
- ▶ 9 credits in natural sciences and mathematics to include a math course at the level of College Algebra or above, statistics, and a course in natural sciences
- ▶ up to 21 credits in any arts and sciences area (must include **Organizational Behavior and Quantitative Analysis**)

Excess credits in arts and science or in the business component may be applied toward electives.

Humanities

You must successfully complete at least 9 credits in the humanities.

- A. A minimum of 3 credits must be earned in Business Ethics with a minimum grade of C [BUS 323 Business Ethics].

- B.** A minimum of 6 credits must be earned in other humanities subjects such as art, literature, philosophy, religion, theatre, speech, and foreign languages.

Humanities subjects include, but are not limited to, art, music, literature, foreign language, philosophy, religion, speech, and creative/advanced writing.

Examinations or courses used to satisfy the written English requirement may not be applied toward the humanities requirement.

Social Sciences/History

You must successfully complete a minimum of 15 credits in the social sciences/history and must include microeconomics and macroeconomics.

Social sciences/history subjects include, but are not limited to, anthropology, sociology, government, political science, psychology, geography, history, and economics.

Natural Sciences and Mathematics

You must successfully complete a minimum of 9 credits in natural sciences and mathematics comprising a 3-credit course in College Algebra (or higher math), a 3-credit course in statistics [BUS 231 **Business Data Literacy**], and a 3-credit course in a natural science.

Natural sciences and mathematics subjects include, but are not limited to, anatomy and physiology, microbiology, chemistry, biology, genetics, zoology, physics, precalculus, calculus, astronomy, geology, and oceanography.

Only three college-level math courses below the level of calculus may be applied to degree requirements.

Arts and Sciences Core Requirements

You must earn a minimum grade of C in each of the following arts and sciences core requirements:

- A. Written English Requirement:** At least 6 credits must be taken to satisfy the written English requirement (see [page 8](#)).
- B. Ethics:** Study of ethics theory, personal values, and the impacts of organizational culture. An understanding of how ethical principles relate to the organizations in which people function, and the effects of the organization's ethics on its reputation, functioning, and performance. The ethics requirement may be satisfied with credits from ethics-related courses with a grade of C or better [BUS 323 **Business Ethics**].
- C. Microeconomics:** Elementary analysis of economic theory as it relates to the individual consumer and individual firm. Topics covered include supply and demand, consumption and revenue, production and cost, and analysis of output and input markets. The microeconomics requirement may be satisfied with credits from coursework in any of the following subjects: introductory microeconomics, principles of economics [micro], managerial economics [ECO 260 **Introduction to Microeconomics**].
- D. Macroeconomics:** Study of concepts and methods of economic analysis as well as gross national product, unemployment, money, and theory of national income. The macroeconomics requirement may be satisfied with credits from coursework in any of the following subjects: introductory macroeconomics, principles of economics [macro] [ECO 262 **Introduction to Macroeconomics**].
- E. Mathematics** (at the level of College Algebra [MAT 114 **Intermediate Algebra**, MAT 116 **Precalculus Algebra**] or higher): Study of intermediate algebra to identify, classify, and solve standard elementary equations, including linear, quadratic, and radical equations, as well as systems of linear equations. Graph, analyze, and describe the behavior of elementary functions, and obtain information about such a function from its graph. Translate, from the written word to its equivalent mathematical formulation, to solve various application problems.

- F. The course typically precedes precalculus in a college math sequence.** Elementary or beginning algebra courses will not apply to the mathematics requirement. The mathematics requirement may be satisfied from coursework in any of the following subjects: college algebra, intermediate algebra (MAT 114 Intermediate Algebra), precalculus (MAT 116 Precalculus Algebra).
- G. Statistics:** Introduction to the basic concepts of probability and statistics, sample statistics, discrete and continuous probability distributions, confidence intervals, estimation, and regression. The statistics requirement may be satisfied with credits from coursework in any of the following subjects: business statistics, economic statistics, elementary statistics, introductory statistics, statistics for the social sciences, any statistics course that covers descriptive and inferential statistics [BUS 231 Business Data Literacy].
- H. Organizational Behavior:** An overview of human behavior in work organizations. It examines theoretical, empirical, and applications issues from individual, interpersonal, group, and organizational perspectives. Topics include the overview and history of the field, perceptions, attitudes, learning processes, personality, motivation, stress, performance appraisal, group dynamics, leadership, communication, decision making, job design, organizational structure and design, organizational change, and development [BUS 311 Organizational Behavior].
- I. Quantitative Analysis:** Quantitative methods and techniques for decision support in a management environment, including applications of the computer. It will include formal project management tools and techniques, such as Gantt charts, Program Evaluation and Review Techniques (PERT) and Critical Path Method (CPM) charts, use of time series analysis for forecasting, applications of regression analysis in management, and aspects of decision theory and simple

modeling. Several components include the use of computer software [BUS 431 Business Data Analysis].

Business Component (51 credits)

(21 credits at the upper level, 9 of which must be in the concentration)

The business component includes a core requirement that helps you gain basic knowledge in business administration and the underlying discipline of decision making. Many of the required core courses are offered by community colleges, while some may be available only at four-year institutions.

Credit in the business component of your degree is earned from core courses, both lower-level and upper-level business elective courses, and concentration subjects. A grade of C or better is required for applicable credit.

All credit you apply to the business component of your degree must have been earned fewer than 15 years prior to your enrollment date.

Business Component Core Requirements

The following business subjects comprise the core requirements for the degree program. Refer to the course description section of the catalog beginning on [page 167](#) to locate courses that meet the appropriate subject area. In general, a course or exam worth 3 credits will satisfy each core requirement.

- A. Financial Accounting:** Financial accounting subjects include, but are not limited to, fundamentals of accounting I, principles of accounting I [ACC 211 Financial Accounting].
- B. Managerial Accounting:** Managerial accounting subjects include, but are not limited to, fundamentals of accounting II, introductory managerial accounting, principles of accounting II [ACC 212 Managerial Accounting].
- C. Introduction to Business Law (United States business law):** Subjects that

may be used to satisfy this business component core requirement include, but are not limited to, business law I or II, commercial law I or II, legal environment of business [BUS 230 Business Law].

- D. Computers:** Subjects that may be used to satisfy this business component core requirement include, but are not limited to, computer programming, computer science, data processing, and introduction to management/computer information systems. Word processing credit alone will not satisfy this requirement [IT 221 Introduction to Computers].

There are many Excelsior University courses that will apply to the computer requirement. Please refer to our website or contact your advising team for more information. A maximum of 9 credits in Computer courses to include the Computer core requirement, maybe applied to the Business Component of all Baccalaureate Business degrees (with the exception of the Bachelor of Science in Business with a Management Information Systems).

- E. Business Communication:** Business communications subjects should provide students with knowledge and skills to effectively communicate (oral and written) in global, diverse business environments by using computer technologies and social media tools [BUS 222 Business Communication].
- F. Principles of Management:** Subjects that may be used to satisfy this component include, but are not limited to, introduction to management, management, management concepts [BUS 341 Management Concepts and Applications].
- G. Principles of Marketing:** Subjects that may be used to satisfy this business component core requirement include, but are not limited to, introduction to marketing, marketing concepts, marketing principles [BUS 351 Marketing Concepts and Application].

- H. Financial Management:** Subjects that may be used to satisfy this business component core requirement include, but are not limited to, business finance, corporation finance, principles of finance [BUS 350 Principles of Finance].

Courses in personal finance will not satisfy this requirement.

- I. International Business:** Subjects that may be used to satisfy this business component core requirement include, but are not limited to, global business, international business [BUS 435 International Business].

- J. Strategic Management (Capstone):** [BUS 499 Strategic Management (Capstone)]

The capstone course is required and must be taken through Excelsior University and cannot be transferred in.

Identifying Applicable Business Elective Courses

To see what types of courses you may find applicable as business electives, you may wish to review the course titles listed for specific business concentrations on the following pages. Courses that are either required or suggested for concentrations are considered business electives for students pursuing a Bachelor of Science in Business with a concentration in General Business.

Upper-Level Credit Requirements

All students in the Bachelor of Science in Business (with concentration) must earn a minimum of 21 upper-level business credits. If you are pursuing a business degree with a general business concentration, you may apply the upper-level credit in any approved business area. If you choose any other concentration, at least 9 of the 21 required credits of upper-level credit must be in your area of concentration.

In addition to college course credit, you may earn upper-level credit by passing examinations classified by the Excelsior

University business faculty as upper level as well as by successfully completing courses or examinations evaluated by the American Council on Education (ACE) College Credit Recommendation Service of the Center for Lifelong Learning or the New York State Board of Regents National College Credit Recommendation Service (formerly known as National PONSI) and accepted by the Excelsior University business faculty as upper level.

Some credit recommended as upper-level by ACE may not apply as upper-level credit toward your business degree.

The Excelsior University business faculty will not classify the following as upper-level business electives, even if such courses are numbered at the junior/senior level:

- ▶ Business Writing
- ▶ Consumer Finance
- ▶ Personal Finance

Other faculty and University policies may also affect the classification of upper-level credit.

There are many Excelsior University courses that will apply as upper-level credit in the business degrees. See our website for a list of current course offerings.

Elective Credit Component (9 credits)

Although you may have already fulfilled the minimum credit requirements in the arts and sciences and business components of your chosen degree, you may still need to earn additional credit to fulfill the total credit requirement of your bachelor's degree. To do this, you may apply any of the following: arts and sciences credit above the minimum required, business credit above the minimum required, or free elective credit.

Free elective credit may be earned in any field of collegiate study, including business and other professional, technical, or vocational areas as well as the arts and sciences. Examples include military science, health, nursing, engineering, education, computer science, home economics, secretarial science, architecture, drafting, auto mechanics, law, social work, and criminal justice. A maximum of 2 credits for physical education activity courses may be applied.

Information Literacy

All student must meet the Excelsior University information literacy requirement by completing **INL 102 Information Literacy** within the first 13 Excelsior University credits attempted.

Cornerstone Course

All students must meet the Excelsior University Cornerstone requirement by completing **IND 101 Cornerstone A: Foundations** or **IND 301 Cornerstone B: Pathways** with a grade of C or better, in their first term of credit-bearing activity after admission to Excelsior University.

Capstone

All students must meet the Excelsior University Capstone requirement by completing the capstone course that aligns with their degree program, with a grade of C or better.

Concentrations

In addition to other business component requirements, you must also satisfy requirements specific to your chosen concentration.

The baccalaureate degree program in business offers the following concentrations:

- ▶ **Finance**
- ▶ **General Accounting**
- ▶ **General Business**
- ▶ **Logistics Management**
- ▶ **Management of Human Resources**
- ▶ **Marketing**

FINANCE

The finance degree curriculum is designed to help you develop a working understanding of financial decision-making processes. It also offers insight into how financial markets function. The finance concentration provides part of the necessary education for students seeking careers in business, industry, financial institutions, government, or not-for-profit organizations in positions such as financial analyst, cost engineer, securities analyst, or commercial or investment banking officer.

Concentration Outcomes

Upon successful completion of the Excelsior University Bachelor of Science in Business with a Finance concentration, the graduate will be able to:

1. Describe managerial functions within global financial markets and banking institutions.
2. Integrate effective strategies for improving the financial management of domestic and foreign corporations.
3. Evaluate organizational financial risks through securities and portfolio analysis.

Subject Requirements for the Finance Concentration

- ▶ Advanced Financial Management (sometimes called Advanced Corporate Finance) [ACC 415 **Advanced Financial Management**]
- ▶ Financial Markets and Institutions (or Money and Banking) [BUS 235 **Financial Markets & Institutions**]
- ▶ Securities Analysis (or Portfolio Management) [BUS 437 **Security Analysis & Investments**]
- ▶ Cost Accounting [ACC 360 **Cost Accounting**]
- ▶ Individual and Corporate Taxation [ACC 417 **Individual and Corporate Taxation**]

GENERAL ACCOUNTING

Accounting is a changing profession that demands concern for both theory and practice. Accountants must work with people while simultaneously maintaining awareness of the human, social, legal, and environmental factors vital to the operation of an organization. There are two major types of accounting: managerial accounting and public accounting.

Managerial accountants work with people at all levels of management to develop, monitor, and review a firm's information and financial systems in order to help plan and control business activities. Career opportunities include controllership and corporate or managerial accounting as well as public accounting, internal auditing, and consulting. Public accountants work independently or with auditing firms to establish the credibility of financial reports. They often specialize in tax and other financial matters.

Concentration Outcomes

Upon successful completion of the Excelsior University Bachelor of Science in Business with a General Accounting concentration, the graduate will be able to:

continued on next page

1. Describe Generally Accepted Accounting Principles (GAAP), concepts, and theories.
2. Integrate accounting decision-making tools for evaluating financial statements, conducting audits, and performing cost accounting.
3. Evaluate individual and corporate taxation policies, regulations, and practices of business organizations.

Subject Requirements for the General Accounting Concentration

- ▶ Intermediate Accounting I
[ACC 314 Intermediate Accounting I]
- ▶ Intermediate Accounting II
[ACC 315 Intermediate Accounting II]
- ▶ Cost Accounting
[ACC 360 Cost Accounting]
- ▶ Taxation (United States tax)
[ACC 417 Individual & Corporate Taxation]
- ▶ Auditing
[ACC 400 Auditing]

GENERAL BUSINESS

Earning the credit required for this concentration helps you create a strong foundation on which to build a career. The Bachelor of Science curriculum is designed to give you an overview of the entire business world. By gaining the knowledge and skills associated with this level of learning, you should acquire the background necessary for a variety of nonspecialist employment opportunities. You may find this option of particular interest if you are considering a career in small business, graduate study in business, or law school following graduation. If Excelsior University does not offer a business concentration in your field of interest, you may choose to demonstrate your preparation in the field by enrolling in the general business option and applying a block of credit in a particular business-related field as electives.

LOGISTICS MANAGEMENT

The concentration in Logistics Management focuses on the flow of material and goods throughout the manufacturing and delivery process. Logistics management is a fundamental piece of the global supply chain, which includes procurement, manufacturing, warehousing, distribution, retailing, transportation, and technical services. Employment opportunities include production planning, inventory management, manufacturing management, global distribution, and logistics management—employment in any organization whose success depends on the global fulfillment of customers' requirements.

This concentration prepares the learner for understanding the complex strategic and analytic process of procuring, inventory control, managing, coordinating, maintaining, transporting, and distributing both goods and services. Emphasis is placed on the practical application of supply chain & project management concepts, risk management, quality control, warehousing, and distribution.

Concentration Outcomes

Upon successful completion of the Excelsior University Bachelor of Science in Business with a Logistics concentration, the graduate will be able to:

1. Integrate multidimensional methods to solve inventory control, facilities planning, warehousing, and distribution problems.
2. Analyze logistics, supply chain, and project management operations.
3. Prioritize cost reduction, risk, and maximized profits for logistics operations.

Subject Requirements for the Logistics Management Concentration

- A. Required Subjects:
 - ▶ Supply Chain Management [BUS 440 Business Supply Chain Management]

- ▶ Lean Logistics [BUS 443 Lean Logistics]
- ▶ Transportation, Warehousing, and Distribution [BUS 381 Transportation, Warehousing, and Distribution]

B. Additional credits in the concentration can be earned from courses such as operations management, purchasing, inventory management, quantitative methods, project management, and other related courses (with approval):

- ▶ Purchasing
- ▶ Inventory Management [BUS 442 Inventory Management]
- ▶ Operations Management [BUS 425 Operations Management]
- ▶ Quality Control
- ▶ Project Management [IT 390 Project Management]

MANAGEMENT OF HUMAN RESOURCES

The curriculum in management of human resources emphasizes the management of individuals and groups in business firms, government agencies, and other organizations. Managers must be competent leaders. They coordinate work and human systems so that employees are motivated. Managers must create an environment conducive to accomplishing the objectives of both the employees and the organization. Employment opportunities in the field include general management, human resource management, labor or industrial relations, and personnel administration.

Concentration Outcomes

Upon successful completion of the Excelsior University Bachelor of Science in Business with a Management of Human Resources concentration, the graduate will be able to:

1. Describe the role and context of human resource management.
2. Integrate personnel management and research to real business scenarios.
3. Evaluate human resources management and strategies to achieve organizational goals.

Subject Requirements for the Management of Human Resources Concentration

A. Required Subjects

- ▶ Managing Human Resources [BUS 312 Managing Human Resources]
- ▶ Managing Diversity [BUS 380 Managing Diversity in the Workplace]

B. Additional 9 credits in the concentration can be earned from courses such as leadership, recruitment, human resource technology, employee law, international human resources management, and other related courses (with approval). Below are examples of course options available to students:

- ▶ [BUS 313 International Human Resource Management]
- ▶ [BUS 315 Labor Relations]
- ▶ [BUS 325 Women in Business]
- ▶ [BUS 452 Business Leadership]
- ▶ [BUS 453 Recruitment and Selection]
- ▶ [BUS 454 HR Analytics]

MARKETING

Marketing is about how businesses interact with consumers and the processes by which they anticipate, analyze, and meet their needs. It is both a philosophy of doing business and a management activity that puts the customer at the heart of the organization. Whether it is the personal branding of an international celebrity, like Beyoncé, the promotion of a vacation destination, like Disneyland Paris, or the advertising of a global fast food brand, like McDonald's. Marketers both develop and apply a range of techniques—communications, creative, or technological—which

continued on next page

will prepare marketing managers to work at both the tactical and strategic levels within organizations and across a range of global industries.

Concentration Outcomes

Upon successful completion of the Excelsior University Bachelor of Science in Business with a Marketing concentration, the graduate will be able to:

1. Describe marketing activities and strategies that are used to shift products and services from vendors to consumers in the retail and wholesale markets.
2. Integrate marketing research to forecast trends of products and services to analyze the international and domestic markets.
3. Evaluate consumer behavior and promotional policy and determine any ethical implications.

Subject Requirements for the Marketing Concentration

A. Required Subjects

- ▶ Consumer Behavior
[BUS 225 Consumer Behavior]
- ▶ Marketing Management
(sometimes called Product Planning)
[BUS 375 Marketing Management]
- ▶ Market Research
[BUS 460 Marketing Research]

- B. Additional credit in the concentration may be earned from courses such as advertising (or promotional policy), distribution channels management, international marketing, retail/wholesale management, sales management, and other related courses (with approval).
[BUS 310 Entrepreneurial Marketing, BUS 343 International Marketing].

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BACHELOR OF SCIENCE IN CRIMINAL JUSTICE

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CREDITS

GENERAL EDUCATION AND ADDITIONAL REQUIREMENTS

Refer to chart on [page 38](#) for an overview of general education and distribution requirements for all bachelor's degree programs.

IND 101 Cornerstone A: Foundations or IND 301 Cornerstone B: Pathways

The cornerstone course must be taken in the first term at Excelsior University and cannot be transferred in.

Ethics

DEGREE-SPECIFIC REQUIREMENTS

CJ 101 Introduction to Criminal Justice

CJ 110 Introduction to Law Enforcement

CJ 120 Introduction to Corrections

CJ 228 Multicultural Issues in Criminal Justice

CJ 265 Criminal Procedure and Evidence

CJ 324 Criminology

CJ 338 Criminal Justice Administration

PSY 305 Research Methods

CJ 380 CJ Ethics

CJ 330 Judicial Process

CONCENTRATION OPTIONS

- ▶ Homeland Security
- ▶ Without Concentration

CJ 498 Criminal Justice Capstone

The Capstone course must be taken at Excelsior University and cannot be transferred in.

This chart shows degree specific requirements. These requirements will fit into total credits for the degree and will apply toward the overall credits listed on [page 38](#). Once you are enrolled, the My Academic Planner tool will specify how credits (transfer and remaining) apply.

Program Description

A bachelor's degree in criminal justice incorporates the theories, history, and legal and ethical issues typically covered in the study of crime and the criminal justice system. Because a number of perspectives and related disciplines exist within the field of criminal justice, you are encouraged to develop depth, breadth, and understanding in one of two areas of concentration: **Homeland Security**, or **Without Concentration**. It is recommended that you also complete coursework outside the criminal justice major in psychology, sociology, and communications to better place your knowledge of the field in its broader social context.

Of the 120 credits for the Bachelor of Science in Criminal Justice, a total of 30 must be earned at the upper level (21 credits in the arts and sciences and 9 in electives). As part of these credits, for the core component of this degree, a minimum of 33 credits must be earned in the field of Criminal Justice, of which 18 must be at the upper level. A minimum GPA of 2.0 is required in the major.

Program Outcomes

All students who successfully complete the criminal justice major, regardless of their concentration, will be able to demonstrate proficiency in the following areas:

1. Analyze the legislative, enforcement, judicial, and correctional components of the criminal justice system, and their interactions.
2. Apply the major legal, criminological, and sociological theories to policies and procedures within the criminal justice system.
3. Analyze the ethical issues that arise in the criminal justice system and generate possible solutions.
4. Apply decision-making models in the development and implementation of policy and procedures.
5. Evaluate the changing demographics of society and their impact on the criminal justice system.

Core Requirements for All Concentrations

- A. CJ 101 Introduction to Criminal Justice
- B. CJ 110 Introduction to Law Enforcement
- C. CJ 120 Introduction to Corrections
- D. CJ 228 Multicultural Issues in Criminal Justice
- E. CJ 265 Criminal Procedure and Evidence
- F. CJ 324 Criminology
- G. CJ 338 Criminal Justice Administration
- H. PSY 305 Research Methods

- I. CJ 380 CJ Ethics
- J. CJ 330 Judicial Process
- K. CJ 498 Criminal Justice Capstone

Concentrations

HOMELAND SECURITY CONCENTRATION

Outcomes for the Concentration

Students who complete the concentration in homeland security will be able to:

- Explain the interdisciplinary nature of homeland security, emergency management, and policy making.
- Apply knowledge and skills to assume leadership roles in homeland security and emergency management.
- Discuss the ethical issues that may arise in homeland and emergency management
- Appraise security risks based upon organizational needs and resources in both the private and public sectors.
- Describe the influence domestic and global diversity has on homeland security strategies.

Concentration Requirements

- A. HEM 125 Introduction to Homeland Security
- B. HEM 352 Domestic Terrorism
- C. HEM 356 Emergency Management
- D. HEM 350 International Terrorism
- E. HEM 460 Infrastructure Security and Policy

WITHOUT CONCENTRATION

A total of 15 credits need to be completed in a discipline related to criminal justice. The following is a list of suggested courses.

- ▶ **CJ 301 Juvenile Delinquency and Justice**
- ▶ **CJ 365 Police and the Community**
- ▶ **CJ 432 Drugs and Crime**
- ▶ **CJ 315 Gangs in America**
- ▶ **HEM125 Intro to Homeland Security**
- ▶ **HEM 352 Domestic Terrorism**
- ▶ **HEM 356 Emergency Management**
- ▶ **HEM 350 International Terrorism**
- ▶ **HEM 460 Infrastructure Security and Policy**

Information Literacy

All student must meet the Excelsior University information literacy requirement by completing **INL 102 Information Literacy** within the first 13 Excelsior University credits attempted.

Cornerstone Course

All students must meet the Excelsior University Cornerstone requirement by completing **IND 101 Cornerstone A: Foundations** or **IND 301 Cornerstone B: Pathways** with a grade of C or better, in their first term of credit-bearing activity after admission to Excelsior University.

Capstone

All students must meet the Excelsior University Capstone requirement by completing the capstone course that aligns with their degree program, with a grade of C or better.

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BACHELOR OF SCIENCE IN CYBERSECURITY

120
CREDITS

GENERAL EDUCATION AND ADDITIONAL REQUIREMENTS

Refer to chart on [page 38](#) for an overview of general education and distribution requirements for all bachelor's degree programs.

IND 101 Cornerstone A: Foundations or IND 301 Cornerstone B: Pathways

The cornerstone course must be taken in the first term at Excelsior University and cannot be transferred in.

DEGREE-SPECIFIC REQUIREMENTS

Communications

IND 203 Professional Ethics

MAT 205 Discrete Structures

BUS 231 Business Data Literacy or MAT 201 Statistics

CORE REQUIREMENTS

- ▶ IT 211 Fundamentals of Programming
- ▶ CYS 220 Cloud Computing and Virtualization
- ▶ CYS 245 Introduction to Cybersecurity
- ▶ CYS 260 Governance, Legal and Compliance
- ▶ CYS 345 Cybersecurity Defense in Depth
- ▶ CYS 426 Cyber Attacks and Defense
- ▶ CYS 450 Security Focused Risk Management
- ▶ IT 250 Business Data Communications
- ▶ IT 361 Computer Operations and Operating Systems
- ▶ IT 380 Overview of Computer Security
- ▶ CYS 403 Network and Application Security
- ▶ IT 406 Computer Forensics
- ▶ IT 460 System Administration

CONCENTRATION REQUIREMENTS

- ▶ **General Concentration**
Up to 15 credits in Approved Technical Electives
- ▶ **Cyber Operations**
Minimum of 15 credits to include IT 313 Intermediate Programming, CJ 125 Introduction to Homeland Security, CYS 400 Reverse Engineering, CYS 470 Secure Software Development, CYS 475 Large-scale Cybercrime and Terrorism

CYS 496 Cybersecurity Capstone

The Capstone course must be taken at Excelsior University and cannot be transferred in.

This chart shows degree specific requirements. These requirements will fit into total credits for the degree and will apply toward the overall credits listed on [page 38](#). Once you are enrolled, the My Academic Planner tool will specify how credits (transfer and remaining) apply.

Program Description

The Bachelor of Science in Cybersecurity program is aligned with the academic requirements for cybersecurity set by the National Security Agency (NSA) and Department of Homeland Security (DHS), and will provide students with the ability to enhance technical knowledge and skills in cybersecurity. The program is designed to prepare learners for cybersecurity-related jobs in the U.S. Cyber Command, the NSA's signal intelligence operations, the Federal Bureau of Investigation, law enforcement agencies, and corporate environments. As Excelsior is a Center for Academic Excellence in Cyber Defense (CAE CD), the program supports the belief of the NSA that cybersecurity should be integrated in all aspects of a person's career. The degree program will prepare the student to take several industry certification exams such as CISP, CEH, Security+, Network+, CHFI, SSCP, and ESCP. Typical occupational areas associated with cybersecurity include incident response analyst, cyber compliance analyst, cyber threat management, cyber network operations planner, cyber systems analyst, systems administrator, and cyber systems and operations engineer.

Of the total 120 credits for the Bachelor of Science in Cybersecurity, 15 must be earned at the upper level in the technology component.

The two options are **General Concentration** and concentration in **Cyber Operations**.

Program Educational Objectives

1. Apply general and discipline-specific concepts and methodologies to identify, analyze and solve problems in the cyber technology discipline.
2. Demonstrate an individual desire and commitment to remain technically current with, and adaptive to, changing technologies through continuous learning and self-improvement.
3. Demonstrate independent thinking, function effectively in team-oriented settings, and maintain a high level of performance in a professional/industrial environment.
4. Communicate effectively in a professional/industrial environment.
5. Perform ethically and professionally in business, industry and society.
6. Attain increasing levels of responsibility and leadership in the cyber technology field.

Program (Student) Outcomes

1. Describe defensive network architecture that use multiple layers of protection.
2. Analyze technologies and processes that monitor, maintain, and protect the data of an institution.
3. Evaluate and apply industry tools to respond to cyber incidents.
4. Create and disseminate cybersecurity reports to stakeholders.
5. Conduct risk and vulnerability assessments of existing and proposed security systems.
6. Develop and implement organizational cybersecurity policies and procedures.
7. Demonstrate the ability to understand professional, ethical, and social responsibility, including the effect of culture, diversity, and interpersonal relations.
8. Demonstrate proficiency in communicating technical information in formal reports, documentation, and oral presentations to users and information technology professionals.
9. Demonstrate a commitment to professional development and to continue to engage in lifelong learning.

Degree Requirements

The Bachelor of Science in Cybersecurity requires 120 semester hours of credit distributed as follows:

- ▶ **60 credits** minimum required in the arts and sciences component
- ▶ **52 credits** minimum required in the cybersecurity component with at least 15 credits at the upper level
- ▶ **8 credits** maximum allowed in the free elective component (to include **INL 102 Information Literacy**)

Arts and Sciences Component (60 credits)

The Bachelor of Science in Cybersecurity requires a minimum of 60 credits in the arts and sciences distributed as follows:

A. Humanities and Social Sciences

At least 24 credits must be earned in the humanities and social sciences and are distributed as follows:

1. Communications

At least 9 credits must be earned in communications courses, including 6 credits to satisfy the written English requirement, completed with a minimum grade of C [**ENG 101 English Composition, ENG 312 Professional and Technical Writing**]. Courses in speech, written composition, technical writing, or similar courses in either written or oral communications are applicable toward the communications requirements.

2. Ethics

At least 3 credits must be earned in ethics with a minimum grade of C [**IND 203 Professional Ethics**].

3. Humanities Elective

At least 3 credits must be earned in a humanities elective. Humanities subjects include, but are not limited to, advanced writing, literature, foreign languages, religion, philosophy, art, and music.

4. Social Sciences/History

At least 9 credits must be earned in such subjects as sociology, economics, history, psychology, and anthropology.

B. Natural Sciences/Mathematics

At least 9 credits must be earned in natural sciences/mathematics and include 3 credits in a natural science and the following math courses:

- ▶ Discrete Math
[**MAT 205 Discrete Structures**]
- ▶ Statistics
[**BUS 231 Business Data Literacy, MAT 201 Statistics**]

Sample natural sciences subjects include biology, chemistry, geology, physics, and genetics.

C. Arts and Sciences Electives

At least 27 additional credits in any arts and sciences areas must be completed.

Cybersecurity Component (55 credits) (15 credits at the upper level)

The Bachelor of Science in Cybersecurity requires a grade of C or better for applicable credit, and a minimum of 51 credits in the area of cybersecurity distributed as follows:

The following core requirements must be met:

- ▶ Programming
[**IT 211 Fundamentals of Programming**]
- ▶ Cloud Computing and Virtualization
[**CYS 220 Cloud Computing and Virtualization**]
- ▶ Introduction to Cybersecurity
[**CYS 245 Introduction to Cybersecurity**]
- ▶ Governance, Legal and Compliance
[**CYS 260 Governance, Legal and Compliance**]
- ▶ Cybersecurity Defense in Depth
[**CYS 345 Cybersecurity Defense in Depth**]
- ▶ Cyber Attacks and Defense
[**CYS 426 Cyber Attacks and Defense**]
- ▶ Security Focused Risk Management
[**CYS 450 Security Focused Risk Management**]
- ▶ Data Communications and Networking
[**IT 250 Business Data Communications**]
- ▶ Operating Systems
[**IT 361 Computer Operations and Operating Systems**]

- ▶ Overview of Computer Security
[IT 380 Overview of Computer Security]
- ▶ Network and Application Security
[CYS 403 Network and Application Security]
- ▶ Computer Forensics
[IT 406 Computer Forensics]
- ▶ System Administration
[IT 460 System Administration]
- ▶ Cybersecurity Capstone
[CYS 496 Cybersecurity Capstone]

Information Literacy

All student must meet the Excelsior University information literacy requirement by completing **INL 102 Information Literacy** within the first 13 Excelsior University credits attempted.

Cornerstone Course

All students must meet the Excelsior University Cornerstone requirement by completing **IND 101 Cornerstone A: Foundations** or **IND 301 Cornerstone B: Pathways** with a grade of C or better, in their first term of credit-bearing activity after admission to Excelsior University.

Capstone

All students must meet the Excelsior University Capstone requirement by completing the capstone course that aligns with their degree program, with a grade of C or better.

Concentrations

GENERAL CONCENTRATION

Recognizing that the cybersecurity field is continuously evolving, the Bachelor of Science in Cybersecurity program offers the general option concentration. This customizable concentration provides flexibility in designing students' area of specialization in order to meet ever-changing job demands and also to build upon student's current achievements. Students of this concentration can choose from approved technical electives to meet the degree requirements. Our courses cover a wide range of technical electives which help

students stay competitive in today's job market.

Requirements

- ▶ Up to 15 credits.

Concentration Requirements

- ▶ Approved technical electives

CYBER OPERATIONS

Cyber Operations as part of cybersecurity is defined as organized activities in cyberspace to gather, prepare, disseminate, report, or process information to achieve a goal (Godwin III; et al.). The Cyber Operations concentration in the cybersecurity degree provides the learner the ability to specialize their skills on the front line of cybersecurity. The courses selected prepare the students to handle cyber incidents and respond to incidents that happen as part of a cyber team.

Requirements

- ▶ Minimum of 15 credits.

Concentration Outcomes:

1. Identify fundamental security design principles that lead to system vulnerabilities.
2. Conduct exploits as part of an offensive cyber operation.
3. Apply fundamental security design principles during system design, development, and implementation to minimize vulnerabilities.

Concentration Requirements

- ▶ Programming
[IT 313 Intermediate Programming]
- ▶ Introduction to Homeland Security
[CJ 125 Introduction to Homeland Security]
- ▶ Reverse Engineering
[CYS 400 Reverse Engineering]
- ▶ Secure Software Development
[CYS 470 Secure Software Development]
- ▶ Large-scale Cybercrime and Terrorism
[CYS 475 Large-scale Cybercrime and Terrorism]

Level Requirement

Of the 52 credits required for the cybersecurity component, at least 15 must be upper level. No upper-level credit is awarded for introductory coursework in computer languages. A course is generally considered upper level if it is offered at the junior or senior level and clearly not introductory in content. Courses taken at two-year institutions may not be used to satisfy upper-level requirements. The acceptance of coursework for credit toward the upper-level requirements is subject to faculty review.

A grade of “C” or higher is needed for all core requirements.

Free Elective Component (8 credits)

The Bachelor of Science in Cybersecurity allows room for up to 8 credits in free electives. Applied to this component is the 1 credit for the Excelsior University information literacy requirement [INL 102 **Information Literacy**]. See [page 9](#) for more information about information literacy.

You may earn the remaining 7 credits in any field of college study, including professional or technical subjects as well as in the arts and sciences.

A maximum of 2 credits in physical education activity courses may be applied to the degree.

Degree-Specific Policies

Policies and procedures that apply specifically to the Bachelor of Science in Cybersecurity follow. All policies can be found in their entirety within the [student policy section](#) of the Excelsior University website.

Programming Language Cap

Excelsior University has placed a 9-credit cap on introductory programming language courses in the cybersecurity component, which includes the following languages:

- ▶ JAVA
- ▶ PYTHON
- ▶ Visual Basic
- ▶ C
- ▶ C++
- ▶ C#

No upper-level credit is awarded for coursework in introductory computer languages.

Credit for Vendor Examinations

Excelsior University awards credit for certain examinations from vendors/professional organizations such as Cisco, CompTIA, (ISC)², Microsoft, and the Project Management Institute. Subject to faculty approval, you may apply up to 21 credits from vendor certification examinations toward the Cybersecurity Component of your degree; additional credits from such examinations may apply toward the Free Elective Component. Please contact an academic advisor about the possibility of receiving college-level credit toward your degree requirements.

Time Limit on Courses and Exams

Due to the rapidly changing nature of technology, Excelsior University has established a time-related restriction on the application of credits applied to the Cybersecurity Component of the Bachelor of Science in Cybersecurity. To meet this requirement, relevant coursework must have been completed more recently than 5 years prior to entrance into the Bachelor of Science in Cybersecurity degree program. Please note that course content in these areas is subject to faculty approval. The time limit may be appealed by completing an appeal form which verifies appropriate and current professional and/or academic experience.

Time Limit for Degree Completion

Excelsior University degree programs are designed, within limits, to be completed at a student's own pace. However, students must make continuous progress toward their academic goals. Students will be dismissed if they do not complete the Bachelor of Science in Cybersecurity at the conclusion of 7 years from their entrance into the program.

Students may seek an extension of the time limit by completing an appeal form, which will outline a plan for completion. Students must submit this appeal no less than one trimester before reaching the 7-year degree completion time limit.

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING TECHNOLOGY

124
CREDITS

GENERAL EDUCATION AND ADDITIONAL REQUIREMENTS

Refer to chart on [page 38](#) for an overview of general education and distribution requirements for all bachelor's degree programs.

IND 101 Cornerstone A: Foundations or IND 301 Cornerstone B: Pathways

The cornerstone course must be taken in the first term at Excelsior University and cannot be transferred in.

DEGREE-SPECIFIC REQUIREMENTS

IND 203 Professional Ethics

Communications

MATHEMATICS COMPONENT (24 credits total)

- ▶ 12 credits at the level of College algebra or above, including Calculus I and II and Differential Equations (MAT 220 Calculus I and MAT 221 Calculus II)

NATURAL SCIENCE COMPONENT

- | | |
|-----------------------|---|
| ▶ PHYS 201 Physics I | ▶ PHYS 202 Physics I Lab or PHYS 203 Physics II Lab |
| ▶ PHYS 203 Physics II | ▶ CHE 101 Chemistry |

LAB REQUIREMENT

- ▶ Seven Technology labs are required. Four must be from the following: DC Circuits, AC Circuits, Digital Electronics, Electronics I, Electronics II, Microprocessors. The other three must be in the concentration.

ELECTRICAL ENGINEERING TECHNOLOGY COMPONENT CORE REQUIREMENTS

- | | |
|------------------------------|--------------------------------|
| ▶ ELEC 152 Circuit Theory I | ▶ ELEC 201 Digital Electronics |
| ▶ ELEC 153 Circuit Theory II | ▶ ELEC 202 Microprocessors |
| ▶ ELEC 160 Electronics I | ▶ Computer Programming |
| ▶ ELEC 161 Electronics II | ▶ Project Management |

CONCENTRATION REQUIREMENTS

One of the following concentrations must be declared.

- ▶ **Electronics**
ELEC 331 Digital and Analog Communications, ELEC 306 Advanced Digital Design, IT 250 Business Data Communications, ELEC 321 Control Systems, ELEC 307 Microcontrollers
- ▶ **Power Systems**
ELEC 210 Programmable Logic Controllers, ELEC 360 Generation and Transmission of Electric Power, ELEC 350 Power Electronics, ELEC 345 Electrical Machines, ELEC 370 Instrumentation and Data Acquisition

ELEC 495 Integrated Technology Assessment Capstone

The Capstone course must be taken at Excelsior University and cannot be transferred in.

This chart shows degree specific requirements. These requirements will fit into total credits for the degree and will apply toward the overall credits listed on [page 38](#). Once you are enrolled, the [My Academic Planner](#) tool will specify how credits (transfer and remaining) apply.

Program Description

The Bachelor of Science in Electrical Engineering Technology program focuses on preparing students for electrical and allied engineering technology positions in technology-related industries such as electronics, electrical power, semiconductors and computers, and nanotechnology. The program is designed specifically to advance job skills by ensuring a breadth of knowledge in technology concepts as well as a depth of understanding and skill in a chosen concentration area. Specifically, the program has three technical concentrations that provide students with a broad professional and technical foundation in the various functional components of electrical engineering technology. Each concentration is a group of related college-level courses within electrical engineering technology that combines depth and breadth of study in a recognized math/science-based technology discipline. The goal of the degree program in specific concentrations is to foster the ability of students to apply what they have learned within the degree program to the real-world contexts of a technology-based industry. The three concentrations are: **Electronics**, **Nanotechnology**, and **Power Systems**.

Of the total 124 credits for the Bachelor of Science in Electrical Engineering Technology, 16 must be earned at the upper level in the technology component.

Student progress within the degree program is based on the demonstration of proficiency, and is attainable through multiple, flexible pathways—offering course-based, prior learning assessment, and credit aggregation pathways to degree completion. In this way, the program is customizable and tailored to each student's need and learning style.

Specialized Accreditation/Recognition: *The Bachelor of Science in Electrical Engineering Technology is accredited by the Engineering Technology Accreditation Commission of ABET, www.abet.org.*

Program Educational Objectives

As an Excelsior University bachelor's-level electrical engineering technology graduate, within a few years of graduation, you are expected to:

1. Apply general and discipline-specific concepts and methodologies to identify, analyze, and solve technical problems in the electrical discipline.
2. Demonstrate an individual desire and commitment to remain technically current with, and adaptive to, changing technologies through continuous learning and self-improvement.
3. Demonstrate independent thinking, function effectively in team-oriented settings, and maintain a high level of performance in a professional/industrial environment.
4. Communicate effectively in written and oral forms in a professional/industrial environment.
5. Perform ethically and professionally in business, industry, and society.
6. Demonstrate and utilize leadership principles in the field of electrical engineering technology.

Program (Student) Outcomes

Upon successful completion of the Excelsior University Bachelor of Science in Electrical Engineering Technology program, the graduate will be able to:

1. Apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve broadly-defined engineering problems appropriate to the electrical engineering technology discipline.
2. Demonstrate an ability to design systems, components, or processes meeting specified needs for broadly-defined engineering problems appropriate to the electrical engineering technology discipline.
3. Apply written, oral, and graphical communication in broadly-defined technical and non-technical environments; and be able to identify and use appropriate technical literature.

continued on next page

4. Conduct standard tests, measurements, and experiments and be able to analyze and interpret the results to improve processes.
5. Function effectively as a member as well as a leader on technical teams, and apply project management techniques in team project activities.

Degree Requirements

The Bachelor of Science in Electrical Engineering Technology requires a minimum of **124 credits** distributed as follows:

- ▶ **60 credits** minimum required in the arts and sciences component
- ▶ **57 credits** minimum required in the electrical engineering technology component
- ▶ **7 credits** required in the free elective component (to include **IND 101/301 Cornerstone** and **INL 102 Information Literacy**)

Arts and Sciences Component (60 credits)

The distribution requirement ensures basic college-level competence in three arts and sciences areas: humanities, social sciences/history, and natural sciences/mathematics.

A. Humanities and Social Sciences/History

At least 24 credits must be earned in the humanities and social sciences/history and are distributed as follows:

1. Communications
At least 9 credits must be earned in communications courses, including 6 credits to satisfy the written English requirement, completed with a minimum grade of C [**ENG 101 English Composition**, **ENG 312 Scientific and Technical Writing**]. Courses in speech, written composition, technical writing, or similar courses in either written or oral communications are applicable toward the communications requirement.

2. Ethics

At least 3 credits must be earned in ethics with a minimum grade of C. [**IND 203 Professional Ethics**].

3. Humanities Electives

At least 3 credits must be earned in a humanities elective such as art, music, literature, foreign language, philosophy, and speech.

4. Social Sciences/History

At least 9 credits must be earned in subjects such as sociology, economics, history, psychology, and anthropology.

B. Mathematics and Natural Sciences

Students are required to complete at least 24 semester hours of credit in the combined areas of mathematics and natural sciences, with at least 12 credit hours in math at the level of college algebra or above [**MAT 116 Precalculus Algebra**, **MAT 118 Trigonometry**], including Calculus I [**MAT 220 Calculus I**] and Calculus II [**MAT 221 Calculus II**], and Differential Equations.

There is no minimum credit hour requirement for natural sciences. Rather, students must complete specific required courses in the natural sciences: Physics I, Physics II, and Chemistry I (with at least one physics lab) [**PHYS 201 Physics I**, **PHYS 203 Physics II**, **PHYS 202 Physics I Laboratory**, **PHYS 204 Physics II Laboratory**, **CHE 101 General Chemistry I or equivalent**].

C. Arts and Sciences Electives

The remaining 12 credits needed to satisfy the 60-credit requirement may be earned in any arts and sciences subjects.

Electrical Engineering Technology Component (57 credits)

The electrical engineering technology component ensures college-level competence in the major functional areas of electrical engineering technology. A grade of C or better is required for applicable credit.

Core Requirements

The following core requirements must be completed:

- ▶ DC Circuits
[ELEC 152 Circuit Theory I]
- ▶ AC Circuits
[ELEC 153 Circuit Theory II]
- ▶ Electronics I
[ELEC 160 Electronics I]
- ▶ Electronics II
[ELEC 161 Electronics II]
- ▶ Digital Electronics
[ELEC 201 Digital Electronics]
- ▶ Microprocessors
[ELEC 202 Microprocessors]
- ▶ Computer Programming
[IT 210 Object-Oriented Programming or IT 240 Introduction to Programming]
- ▶ Project Management
[IT 390 Project Management]
- ▶ Integrated Technology Assessment (capstone)
[ELEC 495 Integrated Technology Assessment] — The capstone course is required and must be taken through Excelsior University, and completed with a grade of C or above. It cannot be transferred in.
- ▶ Four labs from the following core courses must be completed:
 - ▶ DC Circuits
 - ▶ AC Circuits
 - ▶ Electronics I
 - ▶ Electronics II
 - ▶ Digital Electronics
 - ▶ Microprocessors

Information Literacy

All student must meet the Excelsior University information literacy requirement by completing INL 102 **Information Literacy** within the first 13 Excelsior University credits attempted.

Cornerstone Course

All students must meet the Excelsior University Cornerstone requirement by completing IND 101 **Cornerstone A: Foundations** or IND 301 **Cornerstone B: Pathways** with a grade of C or better, in their first term of credit-bearing activity after admission to Excelsior University.

Capstone

All students must meet the Excelsior University Capstone requirement by completing the capstone course that aligns with their degree program, with a grade of C or better.

Concentration Requirements

One of the following concentrations must be declared:

- ▶ **Electronics**
- ▶ **Power Systems**

Concentrations

ELECTRONICS

A concentration in Electronics focuses on training and preparing students to stay up-to-date with the rapidly changing electronics hardware and software technology environment. This concentration is a technical discipline centered on the analysis, design, assembly, testing, upgrading, and maintenance of electronics, computers, and communications hardware. The concentration also emphasizes the analysis, design, development, operation, and troubleshooting of control systems, software, and computer-based process controls. This concentration's outcomes are geared toward providing students with a foundational knowledge of electronics hardware and

software in a wide variety of subject areas and preparing students for positions including circuit design engineer, hardware technician, communications engineer, software developer, or network engineer. Upon successful completion of the Excelsior University Bachelor of Science in Electrical Engineering Technology with an Electronics concentration, the student will be able to:

1. Analyze and design different types of digital and analog electronic communication systems.
2. Design, integrate, and analyze digital and analog control systems.
3. Use high-level computer languages to develop techniques for designing and modeling electronic systems.

Requirements

Minimum of 15 credits, including 9 upper-level. At least three courses must have labs.

Concentration Requirements

- ▶ Electronic Communications
[ELEC 331 Digital and Analog Communications]
- ▶ Advanced Digital Electronics
[ELEC 306 Advanced Digital Design]
- ▶ Data Communications
[IT 250 Business Data Communications]
- ▶ Control Systems
[ELEC 321 Control Systems]
- ▶ Microprocessors II
[ELEC 307 Microcontrollers]

POWER SYSTEMS

A concentration in Power Systems focuses on training and preparing students to stay up-to-date with the rapidly modernizing power electronics and power systems technology environment. This concentration is a technical discipline centered on the analysis, design, assembly, testing, upgrading, and maintenance of DC/AC power conversion systems, electric power generation and distribution, and power control technologies.

The concentration also emphasizes the analysis, design, development, operation, and troubleshooting of single-phase and three-phase electric motors and electric machines, data acquisition, and instrumentation. This concentration's outcomes are geared towards providing students with a foundational knowledge of electric power systems in a wide variety of subject areas and preparing students for positions including power electronics design engineer, electrical power generation and grid maintenance technician, HVDC maintenance engineer, or instrumentation engineer. Upon successful completion of the Excelsior University Bachelor of Science in Electrical Engineering Technology with a Power Systems concentration, the student will be able to:

1. Identify, analyze, and discuss methods used for generation, transmission, and control of electric power.
2. Design, integrate, and analyze DC/AC power conversion systems and related instrumentation.
3. List and describe techniques for analysis and design of power electronics systems.

Requirements

Minimum of 15 credits, including 9 upper-level. At least three courses must have labs.

Concentration Requirements

- ▶ Programmable Logic Controllers
[ELEC 210 Programmable Logic Controllers]
- ▶ Generation and Transmission of Electric Power [ELEC 360 Generation and Transmission of Electric Power]
- ▶ Power Electronics
[ELEC 350 Power Electronics]
- ▶ Electrical Machines/Energy Conversion
[ELEC 345 Electrical Machines]
- ▶ Instrumentation and Data Acquisition
[ELEC 370 Instrumentation and Data Acquisition]

Electrical Engineering Technology Electives

Any remaining credits in the electrical engineering technology component may be satisfied by approved electrical/computer technology electives. Please note that only two of these electives may be approved information or cyber technology courses. Only one programming course can apply toward the degree. Since computer programming is a core requirement, additional computer programming courses will not apply toward the degree. Please check with your academic advisor for approval prior to registering for electrical engineering technology electives.

Laboratory Requirement

The degree requires at least eight laboratories. Of those eight, one physics laboratory is required in the natural sciences/mathematics area and the remaining seven must be in the electrical engineering technology component. Of the seven technology labs, four must be in the following electrical engineering technology core content areas: DC Circuits, AC Circuits, Electronics I, Electronics II, Digital Electronics, and Microprocessors. The remaining three laboratories must be in your area of concentration.

Students must be able to demonstrate competence in the use of standard design practices, tools, techniques, and computer hardware and software appropriate to the electrical discipline and the program goals.

Level Requirement

Of the 57 credits required for the electrical engineering technology component, at least 16 must be upper level. Nine of the upper-level credits must be in the area of concentration. A course is generally considered upper level if it is offered at the junior or senior level and clearly not introductory in content. Courses taken at two-year institutions may not be used to satisfy upper-level requirements. No upper-level credit is awarded for introductory coursework in computer languages. The

acceptance of coursework for credit toward the upper-level requirement is subject to faculty review.

A grade of "C" or higher is needed for all core requirements.

Free Elective Component (7 credits)

The Bachelor of Science in Electrical Engineering Technology allows room for up to 7 credits in free electives. Applied to this component is the 1 credit for the Excelsior University information literacy requirement [INL 102 Information Literacy]. See [page 9](#) or refer to our [website](#) for more information about information literacy.

You may earn the remaining 6 credits in any field of college study, including professional or technical subjects as well as in the arts and sciences. A maximum of 2 credits in physical education activity courses may be applied to the degree.

Degree-Specific Policies

Policies and procedures that apply specifically to the Bachelor of Science in Electrical Engineering Technology follow. All policies can be found in their entirety within the [student policy section](#) of the Excelsior University website.

Time Limit on Courses and Exams

Due to the rapidly changing nature of technology, Excelsior University has established a time-related restriction on the application of certain subject areas meeting requirements in the Bachelor of Science in Electrical Engineering Technology. Previous computer- and electrical/electronic-related coursework must have been completed more recently than 10 years prior to entrance into the Bachelor of Science in Electrical Engineering Technology (except DC and AC Circuits). Please note that course content in these areas is subject to faculty approval. The time limit may be appealed with verification of appropriate and current professional and/or academic experience.

Time Limit for Degree Completion

Excelsior University degree programs are designed, within limits, to be completed at a student's own pace. However, students must make continuous progress toward their academic goals. Students will be dismissed if they do not complete the Bachelor of Science in Electrical Engineering Technology at the conclusion of 10 years from their entrance into the program. Students may seek an extension of the time limit by completing an appeal form, which will outline a plan for completion. Students must submit this appeal no less than one trimester before reaching the 10-year degree completion time limit.

Course Materials Policy

The faculty requires that students submit course materials for all math, science, and technology component courses taken outside of Excelsior University after enrollment in the program. Course materials should include graded homework, quizzes, tests, lab reports, papers, and other student work as appropriate. Course outlines/syllabi should be included as well. This material is required for curriculum review and accreditation purposes. Once we have received your transcript indicating completion of a course and the corresponding student work materials, credit for the course will be added to your evaluation.

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BACHELOR OF SCIENCE IN HEALTH CARE MANAGEMENT

120
CREDITS

GENERAL EDUCATION AND ADDITIONAL REQUIREMENTS

Refer to chart on [page 38](#) for an overview of general education and distribution requirements for all bachelor's degree programs.

IND 101 Cornerstone A: Foundations or IND 301 Cornerstone B: Pathways

The cornerstone course must be taken in the first term at Excelsior University and cannot be transferred in.

HSC 310 Writing and Communication in the Health Science Professions.

Required for the second part of the Written English requirement.

DEGREE-SPECIFIC REQUIREMENTS

Health Care Ethics

HSC 214 Ethics and the Health Professions or HSC 312 Ethics of Health Care

Microeconomics

Macroeconomics

Statistics

HSC 112 Medical Terminology

PROFESSIONAL COMPONENT (42 CREDITS)

► Professional Core (21 Upper-Level Credits Required)

HSC 302 Principles of Health Care Management

PSY 305 Research Methods

BUS 311 Organizational Behavior

HSC 414 Budget and Finance in Health Care Organizations

BUS 312 Managing Human Resources

HSC 432 Introduction to the Health Care Delivery System

HSC 450 Economics of Health Care

Health Care or Business Elective Credits (21 credits)

HSC 470 Health Care Management Capstone

The Capstone course must be taken at Excelsior University and cannot be transferred in.

This chart shows degree specific requirements. These requirements will fit into total credits for the degree and will apply toward the overall credits listed on [page 38](#). Once you are enrolled, the My Academic Planner tool will specify how credits (transfer and remaining) apply.

Program Description

The Bachelor of Science in Health Care Management is a 120-credit program designed to meet the needs of adult learners interested in health care management. This program is composed of coursework that will prepare individuals to carry out the responsibilities required of managers in the health care arena. The curriculum includes core courses in business, health care management, and other areas supportive of the health care manager role.

Of the total 120 credits for the Bachelor of Science in Health Care Management, 27 must be earned at the upper level, 21 in the Professional Core Component, 3 earned in **HSC 310 Writing and Communication in the Health Science Professions** and 3 earned in **HSC 470 Health Care Management Capstone**.

Program Outcomes

Upon completion of the program, the graduate will be able to:

1. Implement management practices in health care settings that reflect leadership and organizational theories.
2. Apply resource management principles within diverse health care organizations.
3. Explain the role of the manager in maintaining a legal and ethical environment.
4. Determine effective communication strategies when interacting with stakeholders.
5. Use evidence-based practice to guide decision making and promote quality in health care settings.

Program Requirements

The Bachelor of Science in Health Care Management requires a total of 120 credits, including 60 credits in the arts and sciences, 15 credits in the additional credit component, 42 credits in the professional component, and a 3-credit capstone course.

Arts and Sciences Component (60 credits)

A. Written English Requirement

A minimum of 6 credits are required in expository writing, one of which may be at the freshman level and the other **HSC 310 Writing and Communication in the Health Science Professions**. See the written English requirement explanation on [page 7](#) for specific details.

B. Humanities

1. A minimum of 3 credits must be earned in health care ethics [**HSC 214 Ethics and the Health Professions** or **HSC 312 Ethics of Health Care**] with a minimum grade of C.
2. A minimum of 6 credits must be earned in other humanities subjects such as art, literature, ethics, philosophy, religion, theatre, speech, and foreign languages.

C. Social Sciences/History

1. A minimum of 3 credits must be earned in microeconomics with a minimum grade of C.
2. A minimum of 3 credits must be earned in macroeconomics with a minimum grade of C.
3. A minimum of 3 credits must be earned in other social sciences/history subjects, including geography, economics, cultural anthropology, political science, sociology, and psychology.

D. Natural Sciences/Mathematics

1. A minimum of 3 credits must be earned in statistics with a minimum grade of C.
2. A minimum of 2 credits must be earned in the natural sciences (e.g., biology, chemistry, physics).
3. A minimum of 4 credits must be earned in natural sciences/mathematics electives. Subjects composing this category include topics in biology, chemistry, mathematics, genetics, and physics.

E. Arts and Sciences Electives

An additional 27 credits must be completed in the arts and sciences areas of the humanities, social sciences/history, or natural sciences/mathematics. Students may distribute these credits across the arts and sciences subjects in any fashion.

Additional Credit Component (15 credits)**A. Medical Terminology**

A minimum of 3 credits must be earned in medical terminology. Students who have earned an associate degree or higher in a health sciences field, present a state-issued license as a registered nurse or practical nurse, or have earned a minimum of 3 credits of Anatomy & Physiology from military training (must be listed on a JST) will receive a waiver of this requirement. Students receiving a waiver for Medical Terminology will need to complete three credits in another area.

B. Information Literacy

A minimum of 1 credit must be earned in information literacy. See the information literacy requirement explanation on [page 8](#) for more information. (Excelsior University **INL 102 Information Literacy** may be used to fulfill this requirement.)

C. Other College-Level Credit

A minimum of 11 credits must be earned in other college-level credit. This essentially is an elective area that can be fulfilled with additional arts and sciences credits or applied professional credits.

- ▶ **HSC 414 Budget and Finance in Health Care Organizations**
- ▶ **BUS 312 Managing Human Resources**
- ▶ **HSC 450 Economics of Health Care**

Health Care or Business Electives (21 credits)

An additional 21 credits must be completed in health care or business electives.

Health Care Management Capstone (3 credits)

HSC 470 Health Care Management Capstone must be completed at Excelsior University with a minimum grade of C. To be eligible for the capstone, students must have successfully completed all other requirements of the professional and additional credit components as well as the written English requirement and be within 9 credits of completing the arts and sciences component.

Information Literacy

All student must meet the Excelsior University information literacy requirement by completing **INL 102 Information Literacy** within the first 13 Excelsior University credits attempted.

Professional Component (42 credits)**Health Care Management Core (21 credits)**

Bachelor of Science in Health Science students must complete the following seven core courses with a minimum grade of C in each:

- ▶ **HSC 302 Principles of Health Care Management**
- ▶ **PSY 305 Research Methods**
- ▶ **BUS 311 Organizational Behavior**

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Cornerstone Course

All students must meet the Excelsior University Cornerstone requirement by completing **IND 101 Cornerstone A: Foundations** or **IND 301 Cornerstone B: Pathways** with a grade of C or better, in their first term of credit-bearing activity after admission to Excelsior University.

Capstone

All students must meet the Excelsior University Capstone requirement by completing the capstone course that aligns with their degree program, with a grade of C or better.

BACHELOR OF SCIENCE IN HEALTH SCIENCES

120
CREDITS

GENERAL EDUCATION AND ADDITIONAL REQUIREMENTS

Refer to chart on [page 40](#) for an overview of general education and distribution requirements for all bachelor's degree programs.

IND 101 Cornerstone A: Foundations or IND 301 Cornerstone B: Pathways

The cornerstone course must be taken in the first term at Excelsior University and cannot be transferred in.

HSC 312 Ethics of Health Care

DEGREE-SPECIFIC REQUIREMENTS

CORE COMPONENT

- ▶ HSC 310 Writing and Communication in the Health Science Professions
- ▶ HSC 320 Health Care Issues in Culturally Diverse Populations
- ▶ PSY 305 Research Methods
- ▶ HSC 432 Introduction to the Health Care Delivery System
- ▶ HSC 445 Health Care Informatics

AREA OF EMPHASIS REQUIREMENTS

Complete 9 credits in one of the following

- ▶ Health and Wellness
- ▶ Management
- ▶ Public Health
- ▶ No Emphasis

HSC 464 Health Sciences Capstone

The Capstone course must be taken at Excelsior University and cannot be transferred in.

This chart shows degree specific requirements. These requirements will fit into total credits for the degree and will apply toward the overall credits listed on [page 40](#). Once you are enrolled, the My Academic Planner tool will specify how credits (transfer and remaining) apply.

Program Description

The Bachelor of Science in Health Sciences is a 120-credit program composed of courses in the arts and sciences as well as in the health sciences. It is designed to provide learning opportunities to foster knowledge and skills necessary to engage with interprofessional teams to promote quality care, expand career potential, and lay the foundation for study at the graduate level.

Of the total 120 credits for the Bachelor of Science in Health Sciences, 27 must be earned at the upper level, 15 in the Health Science core, 9 in the emphasis and 3 in the capstone.

Program Outcomes

Upon completion of the program, the graduate will be able to:

1. Uses evidence-based practice to guide decision making that promotes quality in health care settings.
2. Explains the implications of health ethics and governmental policy on the delivery of health services.
3. Recognizes the need for diversity, equity, and inclusion when delivering health services.
4. Utilizes current and evolving technology when planning, implementing, and evaluating health services.
5. Strategies to engage with stakeholders and interdisciplinary teams.
6. Implement specialized knowledge and skills in the management and delivery of health services.

Program Requirements

The Bachelor of Science in Health Sciences degree program requires a total of 120 credits, including 60 credits in arts and sciences and 60 credits in the health sciences.

Arts and Sciences Component (60 credits)

The study of the arts and sciences is an essential part of preparation for professional practice in that it contributes both knowledge and an intellectual approach to problem solving. The arts and sciences

requirements ensure that the student will develop college-level competence in the humanities, social sciences/history, and natural sciences/math.

A. Written English Requirement

A minimum of 6 credits are required in expository writing, which may be at the freshman level. (See the written English requirement section on [page 7](#) for specific details.)

B. Humanities

A minimum of 9 credits must be earned in the humanities. The humanities include subjects such as art, literature, ethics, philosophy, religion, theatre, speech, and foreign languages. Within the 9 credits, 2 must be in ethics with a minimum grade of C earned.

C. Social Sciences/History

A minimum of 9 credits must be earned in the social sciences/history field. The social sciences include subjects such as geography, economics, cultural anthropology, political science, sociology, and psychology.

D. Natural Sciences/Mathematics

A minimum of 9 credits must be earned in natural sciences/mathematics. A minimum of 2 credits is required in natural sciences subjects (biology, chemistry, physics, etc.) to meet the general education requirements. A minimum of 2 credits in statistics with a minimum grade of C is required to fulfill the core requirement.

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E. Arts and Sciences Electives

The remaining 27 credits may be distributed among the arts and sciences areas of the humanities, social sciences/history, and natural sciences/mathematics.

Health Sciences Component (60 credits)

The Health Sciences component provides students with a strong foundation in the health care field and allows the flexibility to choose an area of emphasis in order to develop skills and knowledge in a specific area.

The Health Sciences component is composed of

- ▶ 15 credits of health sciences core courses,
- ▶ 9 credits in an area of emphasis,
- ▶ 3 credits for the Health Sciences Capstone,
- ▶ 1 credit for INL 102 Information Literacy, and
- ▶ 32 credits in health sciences electives.

Health Sciences Core (15 credits)

Bachelor of Science in Health Sciences students must complete the following five core courses with a minimum grade of C in each: HSC 310 Writing and Communication in the Health Science Professions (3 credits), HSC 320 Health Care Issues in Culturally Diverse Populations (3 credits), PSY 305 Research Methods (3 credits), HSC 432 Introduction to the Health Care Delivery System (3 credits), and HSC 445 Introduction to Health Care Informatics (3 credits).

Areas of Emphasis

Bachelor of Science in Health Sciences students must select one of the following areas of emphasis:

HEALTH AND WELLNESS EMPHASIS (9 credits)

To satisfy the Health and Wellness emphasis requirement, three upper-level courses must be completed with a minimum grade of C: HSC 375 Health and Wellness (*required*) and

two courses (6.0 semester hours) in approved Health and Wellness electives.

Suggested courses: HSC 402 Managing Stress, HSC 403 Nutrition for Wellness

MANAGEMENT EMPHASIS (9 credits)

To satisfy the Management emphasis requirements, the following three courses must be completed with a minimum grade of C: HSC 414 Budget and Finance in Health Care Organizations (3 credits), HSC 418 Management of Human Resources in Health Care Organizations (3 credits), and HSC 440 Leadership and Management in Health Care Seminar (3 credits).

PUBLIC HEALTH EMPHASIS (9 credits)

To satisfy the Public Health emphasis requirement, three upper-level courses must be completed with a minimum grade of C: PBH 321 Introduction to Epidemiology (*required*), PBH 323 Principles of Public Health (*required*) and one course (3.0 semester hours) of an approved Public Health elective.

NO EMPHASIS (9 credits)

To satisfy the no emphasis requirement, 9 upper-level credits must be completed with a minimum grade of C from any of the approved Health Sciences electives.

Health Sciences Electives (32 credits)

Elective credit in the health sciences includes coursework from fields such as: radiology, dental hygiene, cardiovascular technology, pharmacy technology, nursing, and medical laboratory technology. Arts and sciences credit that is supportive of the health sciences may also be applied to this area.

Additionally, elective credit in the health sciences may be awarded for licenses and certifications that have been reviewed and approved

by the faculty. The faculty periodically review other licenses and certifications in various areas of health care for which health sciences elective credit may be awarded. For more specific information, see the list of approved licenses and certifications on [page 207](#).

Information Literacy (1 credit)

At least 1 credit must be earned in information literacy. Excelsior College's **INL 102 Information Literacy** fulfills this requirement. See the information literacy requirement section on [page 8](#) for more specific information on this requirement. This requirement must be completed within the first 13 Excelsior College credits attempted.

Cornerstone Course

All students must meet the college's Cornerstone requirement by completing **IND 101 Cornerstone A: Foundations** or **IND 301 Cornerstone B: Pathways** with a grade of C or better, in their first term of credit-bearing activity after admission to Excelsior College.

Health Sciences Capstone (3 credits)

HSC 464 Health Sciences Capstone must be completed at Excelsior College with a minimum grade of C. To be eligible for the Capstone, students must have successfully completed all other health sciences requirements, including the core, area of emphasis, information literacy, and elective requirements as well as the written English requirement and be within 9 credits of completing the arts and sciences component.

BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY

120
CREDITS

GENERAL EDUCATION AND ADDITIONAL REQUIREMENTS

Refer to chart on [page 38](#) for an overview of general education and distribution requirements for all bachelor's degree programs.

IND 101 Cornerstone A: Foundations or IND 301 Cornerstone B: Pathways

The Cornerstone course must be taken in the first term at Excelsior University and cannot be transferred in.

DEGREE-SPECIFIC REQUIREMENTS

IND 203 Professional Ethics

Communications

MAT 205 Discrete Structures

BUS 231 Business Data Literacy or MAT 201 Statistics

One additional math course at the level of College Algebra or above.

INFORMATION TECHNOLOGY COMPONENT

Core Requirements

- | | |
|--|--|
| ▶ IT 211 Fundamentals of Programming | ▶ IT 371 Web Design and Development |
| ▶ IT 313 Intermediate Programming | ▶ IT 375 Human-Computer Interactive Design |
| ▶ IT 250 Business Data Communications | ▶ IT 380 Overview of Computer Security |
| ▶ IT 361 Computer Organization and Operating Systems | ▶ IT 390 Project Management |
| ▶ IT 370 Database Management Systems | ▶ IT 460 System Administration |

CONCENTRATION REQUIREMENTS

One of the following concentrations must be declared.

- ▶ **General** (15 credits in approved IT electives)
- ▶ **Cybersecurity Technology**
IT 406 Computer Forensics, CYS 426 Cyber Attacks and Defenses, CYS 455 Business Continuity, CYS 403 Network and Application Security, CYS 401 Organizational Information
- ▶ **Network Operations**
IT 422 Advanced Networking, IT 424 Network Operating Systems, IT 426 Wireless Technology, IT 428 Telecommunications Management, IT 430 Network System Design and Management Security

IT 495 Integrated Technology Assessment Capstone

The Capstone course must be taken at Excelsior University and cannot be transferred in.

This chart shows degree specific requirements. These requirements will fit into total credits for the degree and will apply toward the overall credits listed on [page 38](#). Once you are enrolled, the [My Academic Planner](#) tool will specify how credits (transfer and remaining) apply.

Program Description

The Bachelor of Science in Information Technology program focuses on preparing students to stay at the forefront of the rapidly changing technical environment, and training students to be the leaders in the Information Technology field. To accomplish this goal, the program is centered on the fundamental concepts, skills, applications, and practices across a wide variety of information technology domains, including software and web development, computer systems, database management, data communication, information security, and project management. Built upon this core knowledge foundation, our program has identified two technical concentrations: **Cybersecurity Technology**, and **Network Operations**. These concentrations represent the high-demand job areas in the IT industry, and equip students with in-depth specialties in order for them to excel in the workplace. To allow students the flexibility to design a study plan that meets their career goals, a **General Option** concentration is also available, in which students can compile their own course milestones toward the degree.

Of the total 120 credits for the Bachelor of Science in Information Technology, 15 must be earned at the upper level in the technology component.

In addition to the necessary technical knowledge and skills, the strong liberal arts component of our program helps students maintain academic breadth and prepare students with quantitative, communication, and interpersonal skills, as well as with an awareness of business ethics and social responsibility. Our goal is to prepare students to be critical thinkers and problem solvers, and to become committed lifelong learners.

Student progress within the degree program is based on the demonstration of proficiency, and is attainable through multiple, flexible pathways—offering course-based, direct assessment, and credit aggregation pathways to degree completion. In this way, the program is customizable and tailored to each student's need and learning style.

Specialized Accreditation/Recognition: *The Bachelor of Science in Information Technology is accredited by the Computing Accreditation Commission of ABET, www.abet.org.*

Program Educational Objectives

As an Excelsior University bachelor's-level information technology graduate, within a few years of graduation, you are expected to:

1. Apply general and discipline-specific concepts and methodologies to identify, analyze, and solve technical problems in the information technology discipline.
2. Demonstrate an individual desire and commitment to remain technically current with, and adaptive to, changing technologies through continuous learning and self-improvement.
3. Demonstrate independent thinking, function effectively in team-oriented settings, and maintain a high level of performance in a professional/industrial environment.

4. Communicate effectively in a professional/industrial environment.
5. Perform ethically and professionally in business, industry, and society.
6. Demonstrate and utilize leadership principles in the field of information technology.

Program (Student) Outcomes

Upon successful completion of the Excelsior University Bachelor of Science in Information Technology program, the graduate will be able to:

1. Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.

continued on next page

2. Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
3. Communicate effectively in a variety of professional contexts.
4. Recognize professional responsibilities and make informed judgements in computing practice based on legal and ethical principles.
5. Function effectively as a member or leader of a team engaged in activities appropriate to information technology.
6. Identify and analyze user needs and to take them into account in the selection, creation, integration, evaluation, and administration of computing-based systems.

Degree Requirements

The Bachelor of Science in Information Technology requires 120 semester hours of credit distributed as follows:

- ▶ **60 credits** minimum required in the arts and sciences.
- ▶ **48 credits** minimum required in the information technology component with at least 15 credits at the upper level.
- ▶ **12 credits** required in the free elective component (to include INL 102 **Information Literacy** and IND 101/301 **Cornerstone course**).

Arts and Sciences Component (60 credits)

The Bachelor of Science in Information Technology requires a minimum of 60 credits in the arts and sciences distributed as follows:

A. Humanities and Social Sciences

At least 24 credits must be earned in the humanities and social sciences and are distributed as follows:

1. Communications

At least 9 credits must be earned in communications courses, including 6 credits to satisfy the written English

requirement, completed with a minimum grade of C [ENG 101 **English Composition**, ENG 312 **Professional and Technical Writing**]. Courses in speech, written composition, technical writing, or similar courses in either written or oral communications are applicable toward the communications requirements.

2. Ethics

At least 3 credits must be earned in ethics with a minimum grade of C [IND 203 **Professional Ethics**].

3. Humanities Electives

At least 3 credits must be earned in humanities electives. Humanities subjects include, but are not limited to, advanced writing, literature, foreign languages, religion, philosophy, art, and music.

4. Social Sciences/History

At least 9 credits must be earned in such subjects as sociology, economics, history, psychology, and anthropology.

B. Natural Sciences/Mathematics

At least 12 credits must be earned in the natural sciences/mathematics and in include:

1. 3 credits in a natural science
2. **MAT 205 Discrete Structures**
3. **BUS 231 Business Data Literacy** or **MAT 201 Statistics**
4. One additional Mathematics course at the level of College Algebra or above.

C. Arts and Sciences Electives

At least 24 additional credits in any arts and sciences areas must be completed.

Information Technology Component (48 credits)

The Bachelor of Science in Information Technology requires a grade of C or better for applicable credit, and a minimum of 48 credits in the area of information technology distributed as follows:

Core Requirements

The following core requirements must be met:

- ▶ **Fundamentals of Programming**

[IT 211 Fundamentals of Programming]

- ▶ Intermediate Programming
[IT 313 Intermediate Programming]
- ▶ Data Communications and Networking
[IT 250 Business Data Communications]
- ▶ Operating Systems and Computer System Architecture
[IT 361 Computer Organization and Operating Systems]
- ▶ Database Concepts
[IT 370 Database Management Systems]
- ▶ Web Design and Development
[IT 371 Web Design and Development]
- ▶ Human-Computer Interaction
[IT 375 Human-Computer Interactive Design]
- ▶ Overview of Computer Security
[IT 380 Overview of Computer Security]
- ▶ Project Management
[IT 390 Project Management]
- ▶ System Administration
[IT 460 System Administration]
- ▶ Integrated Technology Assessment
Capstone
[IT 495 Integrated Technology Assessment (capstone)]—The capstone course is required and must be taken through Excelsior University. It cannot be transferred in.

Level Requirement

Of the 48 credits required for the information technology component, at least 15 must be upper level. No upper-level credit is awarded for introductory coursework in computer languages. A course is generally considered upper level if it is offered at the junior or senior level and clearly not introductory in content. Courses taken at two-year institutions may not be used to satisfy upper-level requirements. The acceptance of coursework for credit toward the upper-level requirement is subject to faculty review.

Information Literacy

All student must meet the Excelsior University information literacy requirement by completing INL 102 Information Literacy within the first 13 Excelsior University credits attempted.

Cornerstone Course

All students must meet the Excelsior University Cornerstone requirement by completing IND 101 Cornerstone A: Foundations or IND 301 Cornerstone B: Pathways with a grade of C or better, in their first term of credit-bearing activity after admission to Excelsior University.

Capstone

All students must meet the Excelsior University Capstone requirement by completing the capstone course that aligns with their degree program, with a grade of C or better.

Concentrations

One of the following concentrations must be declared. See below for specific requirements for each Information Technology concentration. A minimum of 15 credits is required for each concentration.

- ▶ **Cybersecurity Technology**
- ▶ **General Option**
- ▶ **Network Operations**

CYBERSECURITY TECHNOLOGY

The Cybersecurity Technology concentration focuses on providing broad coverage on the technical, operational, and legal dimensions of cybersecurity. Students of this concentration will attain a holistic view of implementing effective cybersecurity programs appropriate to the environment. The curriculum focuses on areas such as organizational, network, application security issues as well as penetration testing, incidence response, and digital forensics. This will enable students to utilize a variety of cybersecurity tools and techniques in protecting information assets in organizations. The Cybersecurity Technology concentration will prepare students to pursue careers in cybersecurity in positions such as security analyst, security architect, IT security coordinator, data protection analyst, incident responder, or penetration tester. Upon successful completion of the Excelsior University Bachelor of Science in Information Technology with a concentration in Cybersecurity Technology, the

learner will be able to:

1. Apply cybersecurity best practices in managing various computing environments comprised of heterogeneous devices and services.
2. Define and protect data assets in organizations by mitigating risks and integrating business continuity.
3. Identify and analyze the impact of large scale cybercrime incidents on international security and terrorism.

Concentration Requirements

Minimum of 15 credits

- ▶ Computer Forensics
[IT 406 Computer Forensics]
- ▶ Cyber Attacks and Defenses
[CYS 426 Cyber Attacks and Defenses]
- ▶ Business Continuity
[CYS 455 Business Continuity]
- ▶ Network and Application Security
[CYS 403 Network and Application Security]
- ▶ Organizational Information Security
[CYS 401 Organizational Information Security]

GENERAL OPTION

Recognizing that the Information Technology field is continuously evolving, the Bachelor of Science in Information Technology program offers the general option concentration. This customizable concentration provides flexibility in designing students' area of focus in order to meet ever-changing job demands and also to build upon students' current achievements. Students of this concentration can choose from approved IT electives to meet the degree requirements. Our course offerings cover a wide range of IT specialties, which help students stay competitive in today's job market.

Concentration Requirements

- ▶ Approved IT Electives

NETWORK OPERATIONS

The Network Operations concentration focuses on providing students with the critical knowledge and skills in telecommunications and networking, and preparing students for careers including, but not limited to, network technician, network administrator, network engineer, and network architect. Our curriculum incorporates courses in network design and network project management, network operating systems and network administration, wireless systems, RFID technology, and network security, which is designed to guide students through the process of planning, designing, managing, and securing network and telecommunications systems. Upon successful completion of the Excelsior University Bachelor of Science in Information Technology with a Network Operation concentration, the student will be able to:

1. Apply advanced networking techniques and network operating system principles toward the operation of a robust network.
2. Integrate wireless technology solutions into the network infrastructure.
3. Apply telecommunication management principles into the management of networks.

Concentration Requirements

Minimum of 15 credits

- ▶ Advanced Networking
[IT 422 Advanced Networking]
- ▶ Network Operating Systems
[IT 424 Network Operating Systems]
- ▶ Wireless Technology
[IT 426 Wireless Technology]
- ▶ Telecommunication Management
[IT 428 Telecommunications Management]
- ▶ Network Systems Design and Management
[IT 430 Network Systems Design and Management]

Free Elective Component (12 credits)

The Bachelor of Science in Information Technology allows room for up to 12 credits in free electives. Applied to this component is the 1 credit for the Excelsior University

information literacy requirement [INL 102 **Information Literacy**]. See [page 9](#) or visit our website for more information about information literacy.

You may earn the remaining 11 credits in any field of college study, including professional or technical subjects as well as in the arts and sciences.

A maximum of 2 credits in physical education activity courses may be applied to the degree.

Degree-Specific Policies

Policies and procedures that apply specifically to the Bachelor of Science in Information Technology follow. All policies can be found in their entirety within the [student policy section](#) of the Excelsior University website.

Programming Language Cap

Excelsior University has placed a 9-credit cap on introductory programming language courses in the information technology component, which includes the following languages:

- ▶ JAVA
- ▶ PYTHON
- ▶ Visual Basic
- ▶ C
- ▶ C++
- ▶ C#

No upper-level credit is awarded for coursework in introductory computer languages.

Credit for Vendor Examinations

Excelsior University awards credit for certain examinations from vendors/professional organizations such as Cisco, CompTIA, (ISC)², Microsoft, and the Project Management Institute. Subject to faculty approval, you may apply up to 21 credits from vendor certification examinations toward the Information Technology Component of your degree; additional credits from such examinations may apply toward the Free Elective Component. Please contact an academic advisor about the possibility of receiving college-level credit toward your degree requirements.

Time Limit on Courses and Exams

Due to the rapidly changing nature of technology, Excelsior College has established a time-related restriction on the application of credits applied to the Information Technology Component of the Bachelor of Science in Information Technology. To meet this requirement, relevant coursework must have been completed more recently than 5 years prior to entrance into the Bachelor of Science in Information Technology degree program. Please note that course content in these areas is subject to faculty approval. The time limit may be appealed by completing an appeal form which verifies appropriate and current professional and/or academic experience.

Time Limit for Degree Completion

Excelsior College degree programs are designed, within limits, to be completed at a student's own pace. However, students must make continuous progress toward their academic goals. Students will be dismissed if they do not complete the Bachelor of Science in Information Technology at the conclusion of 7 years from their entrance into the program. Students may seek an extension of the time limit by completing an appeal form, which will outline a plan for completion. Students must submit this appeal no less than one trimester before reaching the 7-year degree completion time limit.

Course Materials Policy

The faculty requires that students submit course materials for all math, science, and technology component courses taken outside of Excelsior College after enrollment in the program. Course materials should include graded homework, quizzes, tests, lab reports, papers, and other student work as appropriate. Course outlines/syllabi should be included as well. This material is required for curriculum review and accreditation purposes. Once we have received your transcript indicating completion of a course and the corresponding student work materials, credit for the course will be added to your evaluation.

BACHELOR OF SCIENCE IN LIBERAL ARTS

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CREDITS

GENERAL EDUCATION AND ADDITIONAL REQUIREMENTS

Refer to chart on [page 38](#) for an overview of general education and distribution requirements for all bachelor's degree programs.

IND 101 Cornerstone A: Foundations or IND 301 Cornerstone B: Pathways

The cornerstone course must be taken in the first term at Excelsior University and cannot be transferred in.

Ethics

DISTRIBUTION REQUIREMENT

- ▶ 33 credit minimum of which 12 credits are required in any two different arts and sciences distribution areas and 9 in the remaining distribution area: humanities, social science/history, and natural science/mathematics.

DEGREE-SPECIFIC REQUIREMENTS

OPTIONAL CONCENTRATION REQUIREMENTS

- ▶ **Logistics Operations Management (18 credits, with 9 upper level)**
BUS 381 Transportation, Warehousing and Distribution, BUS 440 Supply Chain Management, BUS 443 Lean Logistics. Additional Credits in: Procurement, Purchasing, Inventory Management, Operations Management, Project Management, Quality Control and other related courses as approved.

LA 498 Liberal Arts Capstone

The Capstone course must be taken at Excelsior University and cannot be transferred in.

This chart shows degree specific requirements. These requirements will fit into total credits for the degree and will apply toward the overall credits listed on [page 38](#). Once you are enrolled, the My Academic Planner tool will specify how credits (transfer and remaining) apply.

Program Description

Students in the Bachelor's in Liberal Arts degrees explore the full breadth of the arts and sciences while demonstrating competency in critical 21st century skills most desired by employers. The degree programs stress intellectual development and multidisciplinary exploration of the critical issues and values inherent in the human experience, equipping students for career advancement or graduate school options. Students who choose to pursue the general liberal arts degrees do not specialize; rather, they select from a vast menu of courses that prompt students to ask questions about themselves, their history, their culture, their values, and their future and to consider whether a liberal education can, perhaps, release us from preconceived notions and unexamined attitudes. The general Liberal Arts degrees are popular with our students because they offer the most flexible approach to degree completion using many different credit sources. They are an excellent choice for students who would like to investigate multiple opportunities while developing the skills and background necessary for a personally, socially, and professionally fulfilling life.

Of a total of 120 degree credits, Bachelor of Science students must complete 60 credits in the arts and sciences. The remaining credits may be a combination of applied professional and additional arts and sciences. At least 30 of the degree credits must be at the upper level, 21 of which must be in the Arts and Sciences.

Nine upper level credits are required for the Logistics and Operations management concentration.

Program Outcomes

1. Articulate complex concepts to a targeted audience in written and oral form.
2. Analyze the influence of cultural diversity when addressing global issues.
3. Collaborate within a team to solve interdisciplinary problems or achieve a common goal.
4. Evaluate perspectives of an ethical dilemma and present evidence-based solutions.
5. Develop a plan that integrates academic and professional experiences for achieving career goals.

Degree Requirements

Arts and Sciences (60 credits)

Required credits are distributed as follows:

- A. **Written English Requirement:** 6 credits (minimum grade of C required)

- B. **Distribution requirement:** 33 credit minimum of which 12 credits are required in any two different arts and sciences distribution areas and 9 in the remaining distribution area: humanities, social science/history, and natural science/mathematics.

Within the 33 total credits, the humanities distribution must include at least 2 credits in ethics with a minimum grade of C, and at least one 3-credit course in a humanities discipline. At least 2 credits must be in college-level mathematics and 2 credits must be in the natural sciences (see [page 6](#) for details).

- C. **Capstone Requirement:** 3 credits
This requirement may be satisfied by completion of one of **LA 498 Liberal Arts Capstone**. This requirement must be satisfied at Excelsior University and cannot be transferred in. A grade of C or better is required to pass the capstone requirement.
- D. **Additional Arts and Science Electives**
24 credits in arts and sciences courses of your choosing.

Other Requirements (60 credits)

Required credits are distributed as follows:

- ▶ **INL 102 Information Literacy:** 1 credit
- ▶ **Applied Professional and/or Additional Arts and Sciences Credits:** 59 credits

Concentration (Optional)

LOGISTICS OPERATIONS MANAGEMENT

The Logistics Operations Management concentration is designed for students who want to enhance their skills for career advancement and who want to add a credential to their BS degree. The concentration requires 18 credits of coursework. All credits for the degree can be transferred in except for a 3-credit capstone requirement, which must be met by completion of an Excelsior University course.

In addition to the BS degree outcomes, Logistics Operations Management students will demonstrate the following concentration outcomes:

1. Solve inventory control, facilities planning, warehousing, and distribution problems
2. Analyze logistics, supply chain, and project management operations
3. Prioritize cost reduction, risk, and maximized profits for logistics operations
4. Integrate multidimensional methods to solve logistics problems
5. Evaluate the design and implementation of supply chain systems

A minimum of 18 credits, with nine at the upper level, and a 2.0 GPA are required. All professional Logistics courses must be taken within 15 years of enrollment.

Information Literacy

All student must meet the Excelsior University information literacy requirement by completing **INL 102 Information Literacy** within the first 13 Excelsior University credits attempted.

Cornerstone Course

All students must meet the Excelsior University Cornerstone requirement by completing **IND 101 Cornerstone A: Foundations** or **IND 301 Cornerstone B: Pathways** with a grade of C or better, in their first term of credit-bearing activity after admission to Excelsior University.

Capstone

All students must meet the Excelsior University Capstone requirement by completing the capstone course that aligns with their degree program, with a grade of C or better.

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BACHELOR OF SCIENCE IN NATIONAL SECURITY

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CREDITS

GENERAL EDUCATION AND ADDITIONAL REQUIREMENTS

Refer to chart on [page 38](#) for an overview of general education and distribution requirements for all bachelor's degree programs.

IND 101 Cornerstone A: Foundations or IND 301 Cornerstone B: Pathways

The Cornerstone course must be taken in the first term at Excelsior University and cannot be transferred in.

Ethics

DEGREE-SPECIFIC REQUIREMENTS

BNS 101 Introduction to National Security

BNS 301 National Security Ethics and Diversity

POL 351 War & Peace after Cold War

BNS 303 Comparative National Security Analysis

CONCENTRATION OPTIONS

- Topics in National Security
- Intelligence & Security Analysis

BNS 498 National Security Capstone

The Capstone course must be taken at Excelsior University and cannot be transferred in.

This chart shows degree specific requirements. These requirements will fit into total credits for the degree and will apply toward the overall credits listed on [page 38](#). Once you are enrolled, the My Academic Planner tool will specify how credits (transfer and remaining) apply.

Program Description

The Bachelor of Science in National Security degree prepares students for employment and advancement in the diverse and challenging national security arena. The program is designed to serve government employees who are in the military, or are serving the nation in the Defense, State, Agriculture, Commerce, Education, Energy, or Veterans Affairs departments, to name a few. National security is an interagency responsibility and a field that broadly affects the life of the nation. This interdisciplinary and flexible degree provides a broad education to enhance students' ability to analyze the security strategies and policies of the United States and other leading nation-states, while learning how the components of national power are developed and used for strategic advantage in the highly competitive international realm. By analyzing case studies, real-world scenarios, and ethical dilemmas, students will address national security at all levels. Learners will evaluate strategic policy; they will research topics, analyze arguments, synthesize their own ideas, and substantiate policy arguments; and, they will explore key concepts and trends in 21st century global security. This is the degree you should pursue to grow as a national security professional. The National Security degree has two concentrations: Intelligence and Security Analysis, and Topics in National Security. The Topics concentration provides students with infinite possibilities to build a degree program that meets their individual and professional needs.

Of the 120 credits for the Bachelor of Science in National Security, a total of 30 must be earned at the upper level (21 credits in the arts and sciences and 9 in electives). As part of these credits, for the core component of this degree, a minimum of 33 credits must be earned in the field of National Security, of which 18 must be at the upper level. A minimum GPA of 2.0 is required in the major.

Program Outcomes

Students who successfully complete the Bachelor of Science in National Security will be able to:

1. Describe the interdisciplinary character of national security (e.g., economics, history, political science, public administration, psychology, sociology).
2. Examine the use and components of national power (e.g., economic, military, social cohesion, quality of leadership and diplomacy, etc.)
3. Evaluate U.S. and other nation-states' national security strategies and policies.
4. Analyze ethical issues in the field of national security.
5. Deliver written communication with appropriate content, organization, syntax, mechanics, and style for the audience and purpose (GECC 1.2).

Core Requirements

- A. BNS 101 Introduction to National Security
- B. BNS 301 National Security Ethics and Diversity (with a grade of C or better)
- C. POL 351 War and Peace After the Cold War
- D. BNS 303 Comparative National Security Analysis
- E. BNS 498 National Security Capstone, must be completed with a grade of C or better.

Concentrations

18 credits in one of the following areas:

TOPICS IN NATIONAL SECURITY

Courses selected with assistance of academic advisor and approved by faculty program director.

INTELLIGENCE AND SECURITY ANALYSIS

- BNS 305 Cybersecurity
- BNS 307 Intelligence in National Security
- POL 320 The Geopolitics of Energy and Global Climate Change

continued on next page

- ▶ **HEM 460 Infrastructure Security and Policy**
- ▶ **HEM 350 International Terrorism**
- ▶ **HEM 450 Counterterrorism**

Information Literacy

All student must meet the Excelsior University information literacy requirement by completing **INL 102 Information Literacy** within the first 13 Excelsior University credits attempted.

Cornerstone Course

All students must meet the Excelsior University Cornerstone requirement by completing **IND 101 Cornerstone A: Foundations** or **IND 301 Cornerstone B: Pathways** with a grade of C or better, in their first term of credit-bearing activity after admission to Excelsior University.

Capstone

All students must meet the Excelsior University Capstone requirement by completing the capstone course that aligns with their degree program, with a grade of C or better.

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BACHELOR OF SCIENCE IN NUCLEAR ENGINEERING TECHNOLOGY

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CREDITS

GENERAL EDUCATION AND ADDITIONAL REQUIREMENTS

Refer to chart on [page 38](#) for an overview of general education and distribution requirements for all bachelor's degree programs.

IND 101 Cornerstone A: Foundations or IND 301 Cornerstone B: Pathways

The Cornerstone course must be taken in the first term at Excelsior University and cannot be transferred in.

IND 203 Professional Ethics

DEGREE-SPECIFIC REQUIREMENTS

Communications

Physical Sciences

PHYS 201 Physics I, PHYS 202 Physics I Lab, PHYS 203 Physics II, PHYS 204 Physics II Lab, CHE 101 Chemistry I, CHE 101 L Chemistry I Lab, NUC 245 Thermodynamics, NUC 246 Thermodynamics Lab (if transferring in Thermodynamics without a Lab), NUC 240 Atomic and Nuclear Physics

Mathematics

12 credits at the level of College algebra or above, including Calculus I and II (MAT 220 and 221 Foundations of Technology Problem Solving I and II)

NUCLEAR ENGINEERING TECHNOLOGY COMPONENT CORE REQUIREMENTS

- ▶ NUC 255 Electrical Theory
- ▶ IT 221 Introduction to Computers
- ▶ IT 390 Project Management
- ▶ NUC 271 Fundamentals of Reactor Safety
- ▶ NUC 323 Material Science
- ▶ NUC 210 Health Physics and Radiation Protection
- ▶ NUC 211 Radiation Measurement Lab
- ▶ NUC 350 Plant Systems Overview
- ▶ NUC 330 Reactor Core Fundamentals
- ▶ NUC 250 Introduction to Heat Transfer and Fluid Mechanics
- ▶ NUC 260 Power Plant Components

CONCENTRATION REQUIREMENTS

- ▶ **General:** Up to 15 credits in Free Electives
- ▶ **Nuclear Leadership:** BUS 311 Organizational Behavior, BUS 452 Business Leadership, NUC 280 Leading Change in the Nuclear Industry, NUC 285 Leadership Communication in the Nuclear Industry, NUC 360 Nuclear Leadership-Leadership Courage/Risk Management
- ▶ **Nuclear Cybersecurity:** IT 380 Overview of Computer Security, CYS 260 Governance, Legal and Compliance, CYS 350 Cybersecurity Defense in Depth for the Nuclear Industry, CYS 455 Business Continuity, CYS 465 Cybersecurity Investigation and Case Studies for the Nuclear Industry

NUC 495 Integrated Technology Assessment BNX

The Capstone course must be taken at Excelsior University and cannot be transferred in.

This chart shows degree specific requirements. These requirements will fit into total credits for the degree and will apply toward the overall credits listed on [page 38](#). Once you are enrolled, the My Academic Planner tool will specify how credits (transfer and remaining) apply.

Program Description

The Bachelor of Science in Nuclear Engineering Technology program focuses on preparing students for technical positions in the nuclear industry. The program is designed specifically to advance job skills by ensuring a breadth of knowledge in nuclear engineering technology concepts. The program emphasizes the practical applications of engineering technology principles related to the nuclear industry. The program provides students with knowledge in areas such as reactor operations, health physics, quality assurance, chemistry, and instrumentation and control related to the nuclear engineering technology field. The goal of the degree program is to foster the ability of students to apply what they have learned to the real-world contexts of the nuclear industry.

Student progress within the degree program is based on the demonstration of proficiency, and is attainable through multiple, flexible pathways — offering course-based, prior learning assessment, and credit aggregation pathways to degree completion. In this way, the program is customizable and tailored to each student's need and learning style.

Of the total 124 credits for the Bachelor of Science in Nuclear Engineering Technology, 15 must be earned at the upper level in the technology component.

The three concentrations are: **General Option**, **Nuclear Cybersecurity**, and **Nuclear Leadership**.

Specialized Accreditation/Recognition: The Bachelor of Science in Nuclear Engineering Technology is accredited by the Engineering Technology Accreditation Commission of ABET, www.abet.org.

Program Educational Objectives

As an Excelsior University bachelor's level nuclear engineering technology graduate, within a few years of graduation, you are expected to:

1. Apply general and discipline-specific concepts and methodologies to identify, analyze, and solve technical problems in the nuclear discipline, including understanding and addressing the societal and institutional issues related to nuclear technology.
2. Demonstrate an individual desire and commitment to remain technically current with, and adaptive to, changing technologies through continuous learning and self-improvement.
3. Demonstrate independent thinking, function effectively in team-oriented settings, and maintain a high level of performance in a professional/industrial environment.
4. Communicate effectively in a professional/industrial environment, including communicating effectively to stakeholders external to the nuclear industry.

5. Perform ethically and professionally in business, industry, and society.
6. Demonstrate and utilize leadership principles in the field of nuclear engineering technology.

Program (Student) Outcomes

Upon successful completion of the Excelsior University Bachelor of Science in Nuclear Engineering Technology program, the graduate will be able to:

1. Apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve broadly-defined engineering problems appropriate to the nuclear engineering technology discipline.
2. Demonstrate an ability to design systems, components, or processes meeting specified needs for broadly-defined engineering problems appropriate to the nuclear engineering technology discipline.
3. Apply written, oral, and graphical communications in broadly-defined technical and non-technical environments; and be able to identify and use appropriate technical literature.

4. Conduct standard tests, measurements, and experiments, and be able to analyze and interpret the results to improve processes.
5. Function effectively as a member as well as a leader on technical teams, and apply project management techniques in team project activities.
6. Demonstrate comprehension of currently applicable rules and regulations in the areas of: radiation protection, operations, maintenance, quality control, quality assurance, and safety.
7. Demonstrate an understanding of and commitment to professional, ethical, and social responsibilities, including the impacts of culture, diversity, and interpersonal relations.

Degree Requirements

The Bachelor of Science in Nuclear Engineering Technology requires **124 semester hours of credit** distributed as follows:

- ▶ **60 credits** minimum required in the arts and sciences component
- ▶ **48 credits** minimum required in the nuclear engineering technology component
- ▶ **16 credits** required in the concentration or free elective component (to include **INL 102 Information Literacy** and **IND 101/301 Cornerstone Course**)

Arts and Sciences Component (60 credits)

This distribution requirement ensures basic University-level competence in three arts and sciences areas: humanities, social sciences/history, and natural sciences/mathematics.

A. Humanities and Social Sciences

At least 24 credits must be earned in the humanities and social sciences and are distributed as follows:

1. Communications

At least 9 credits must be earned in communications courses, including 6 credits to satisfy the written English requirement, completed with a minimum grade

of C [**ENG 101 English Composition** and **ENG 312 Professional and Technical Writing**]. Courses in speech, written composition, technical writing, or similar courses in either written or oral communications are applicable toward the communications requirement.

2. Ethics

At least 3 credits must be earned in ethics with a minimum grade of C.

[**IND 203 Introduction to Professional Ethics**].

3. Humanities Elective

At least 3 credits must be earned in a humanities elective. Humanities subjects include, but are not limited to, advanced writing, literature, foreign languages, religion, philosophy, art, and music.

4. Social Sciences/History

At least 9 credits must be earned in such subjects as sociology, economics, history, psychology, and anthropology.

B. Mathematics and Natural Sciences

Students are required to complete at least 26 semester hours of credit in the combined areas of mathematics and natural sciences, with at least 12 credit hours in math at the level of college algebra or above [**MAT 116 Precalculus Algebra** and **MAT 118 Trigonometry**], including Calculus I and II [**MAT 220 Calculus I** and **MAT 221 Calculus II**].

There is no minimum credit hour requirement for natural sciences. Rather, students must complete specific required courses in the natural sciences:

1. Chemistry (with lab)

[**CHE 101 General Chemistry I** and **CHE 101L General Chemistry Laboratory I**]

2. Physics I and II and Physics Lab I and II

[**PHYS 201, 203 Physics I and II**, **PHYS 202, 204 Physics Laboratory I and II**]

3. Atomic Physics

[**NUC 240 Atomic and Nuclear Physics**] (also satisfies *Nuclear Physics*)

4. Nuclear Physics

[**NUC 240 Atomic and Nuclear Physics**] (also satisfies *Atomic Physics*)

5. Thermodynamics
[NUC 245 Thermodynamics]

C. Arts and Sciences Electives

The remaining credits needed to satisfy the 60-credit requirement may be earned in any arts and sciences subjects.

Nuclear Engineering Technology Component (48 credits)

A. Core Requirements

The nuclear engineering technology component ensures basic college-level competence in the major functional areas of nuclear engineering technology. A grade of C or better is required for applicable credit.

The following core requirements must be completed:

1. Electrical Theory
[NUC 255 Electrical Theory OR ELEC 152 Circuit Theory I and ELEC 153 Circuit Theory II (both ELEC 152 and 153 must be completed to satisfy this requirement)]
2. Computer Applications
[IT 221 Introduction to Computers]
3. Fundamentals of Reactor Safety
[NUC 271 Fundamentals of Reactor Safety]
4. Material Science
[NUC 323 Material Science]
5. Health Physics/Radiation Protection
[NUC 210 Health Physics and Radiation Protection]
6. Radiation Measurement Lab
[NUC 211 Radiation Measurement Lab]
7. Plant Systems Overview
[NUC 350 Plant Systems Overview]
8. Reactor Core Fundamentals
[NUC 330 Reactor Core Fundamentals]
9. Fluids
[NUC 250 Introduction to Heat Transfer and Fluid Mechanics] (Also satisfies *Heat Transfer*)

10. Heat Transfer
[NUC 250 Introduction to Heat Transfer and Fluid Mechanics] (also satisfies *Fluids*)

11. Power Plant Components
[NUC 260 Power Plant Components]

12. Project Management
[IT 390 Project Management]

13. Integrated Technology Assessment (capstone)
[NUC 495 Integrated Technology Assessment] — The capstone course is required and must be taken through Excelsior University and must be completed with a C or above. It cannot be transferred in.

B. Nuclear Engineering Technology Electives

You may apply electives from nuclear and related subject areas toward completion of the 48-credit requirement of the technology component. Sample titles include Instruments and Controls, Reactor Safety, Quality Assurance Regulations, Radiation Biology, Radiochemistry, Radiation Waste Processing, and others, as approved. Be sure to contact your academic advisor for approval before registering for courses.

C. Laboratory Requirement

Students must complete the following five labs:

- CHEM 101L Chemistry I Lab
- PHYS 202 Physics I Lab
- PHYS 204 Physics II Lab
- NUC 211 Radiation Measurement Lab
- NUC 245/246 Thermodynamics/Thermodynamics Lab

D. Level Requirement

Of the 48 credits required for the nuclear engineering technology component, at least 15 must be upper level. A course is generally considered upper level if it is offered at the junior or senior level and is clearly not introductory in content. Courses taken at two-year institutions cannot be used to satisfy upper-level requirements.

A grade of "C" or higher is needed for all technology core requirements.

Information Literacy

All student must meet the Excelsior University information literacy requirement by completing **INL 102 Information Literacy** within the first 13 Excelsior University credits attempted.

Cornerstone Course

All students must meet the Excelsior University Cornerstone requirement by completing **IND 101 Cornerstone A: Foundations** or **IND 301 Cornerstone B: Pathways** with a grade of C or better, in their first term of credit-bearing activity after admission to Excelsior University.

Capstone

All students must meet the Excelsior University Capstone requirement by completing the capstone course that aligns with their degree program, with a grade of C or better.

Concentration or Free Elective Component (16 credits)

One of the following concentrations must be declared. See below for specific requirements for each Nuclear Engineering Technology concentration. A minimum of 16 credits is required for each concentration/free elective component.

- ▶ **General Concentration**
- ▶ **Nuclear Cybersecurity**
- ▶ **Nuclear Leadership**

GENERAL CONCENTRATION

The General Concentration allows room for up to 16 credits in free electives, to include Information Literacy and the Cornerstone course. These credits may be earned in any field of college study, including professional or technical subjects as well as in the arts and sciences. A maximum of 2 credits in physical education activity courses may be applied to the degree.

NUCLEAR CYBERSECURITY

With the rising number of cybersecurity threats on our nation's infrastructure, the Cybersecurity Technology concentration is designed to enable students to earn a bachelor's degree that focuses on cybersecurity within the nuclear industry. The concentration emphasizes the concepts associated with governance, legal, and compliance of cybersecurity pertaining to the nuclear industry. With completion of this degree, students will gain foundational knowledge of cybersecurity, the impacts of cyber attacks on nuclear facilities, and preparing them for cybersecurity positions in the nuclear industry. The cybersecurity concentration will prepare students for a variety of positions in engineering technology and security.

Upon successful completion of the Excelsior University Bachelor of Science in Nuclear Engineering Technology with a Cybersecurity concentration, the student will be able to:

1. Assess security risk and vulnerability of existing and proposed information systems in the nuclear industry.
2. Explain incident response handling, incident coordination, and ethical and legal issues.
3. Assess the effect of cyber attacks in the nuclear industry and the impact on nuclear facilities.
4. Utilize the best sources of information available related to cybersecurity issues, threats, and recovery.

Concentration Requirements

Minimum of 15 credits.

- ▶ Computer Security
[IT 380 Overview of Computer Security]
- ▶ Governance, Legal, and Compliance
[CYS 260 Governance, Legal, and Compliance]
- ▶ Cybersecurity Defense
[CYS 350 Cybersecurity Defense in Depth for the Nuclear Industry]
- ▶ Business Continuity
[CYS 455 Business Continuity]

- Cybersecurity Investigation
[CYS 465 Cybersecurity Investigation
and Case Studies for the Nuclear
Industry]

NUCLEAR LEADERSHIP

The Bachelor of Science in Nuclear Engineering Technology—Nuclear Leadership concentration is designed to prepare students to earn a bachelor's degree related to nuclear engineering technology with an emphasis on nuclear leadership. The concentration emphasizes leadership topics such as business leadership, organizational behavior, change management, leadership communications, and leadership courage/risk management. The nuclear leadership concentration will prepare students for a variety of leadership positions in the nuclear industry.

Upon successful completion of the Excelsior University Bachelor of Science in Nuclear Engineering Technology with a Nuclear Leadership concentration, the student will be able to:

1. Apply strategies in effective leadership, diverse work environments, and resolving conflicts.
2. Demonstrate an understanding of ethical and unethical leadership behaviors in regard to the nuclear industry.
3. Explain the roles of leaders in leading change, risk management, and communicating effectively in the nuclear industry.
4. Summarize leadership challenges in the nuclear industry including risk management perspectives.
5. Integrate leadership theories to improve an organization's behaviors and organizational standards in support of management priorities.

Concentration Requirements

Minimum of 15 credits.

- Organizational Behavior
[BUS 311 Organizational Behavior]

- Business Leadership
[BUS 452 Business Leadership]
- [NUC 280 Leading Change in the Nuclear Industry]
- [NUC 285 Leadership Communications in the Nuclear Industry]
- [NUC 360 Nuclear Leadership—Leadership Courage/Risk Management]

Degree-Specific Policies

Policies and procedures that apply specifically to the Bachelor of Science in Nuclear Engineering Technology follow. All policies can be found in their entirety within the [student policy section](#) of the Excelsior University website.

Time Limit on Courses and Exams

Due to the rapidly changing nature of technology, Excelsior University has established a time-related restriction on the application of certain subject areas meeting requirements in the Bachelor of Science in Nuclear Engineering Technology. The following subject areas must have been completed more recently than 10 years prior to entrance into the Bachelor of Science in Nuclear Engineering Technology degree program: calculus I, calculus II, natural science, computers, nuclear engineering technology, and electrical/electronics (except electrical theory). Please note that course content in these areas is subject to faculty approval. The time limit may be appealed with verification of relevant and current coursework or continuous employment in the nuclear industry (Navy, Government, or Commercial).

Navy personnel who are currently active in the nuclear field may be exempt from submitting the Time Limit Appeal if their current Joint Services Transcript lists any of the following ratings: Electrician's Mate, Nuclear Power—EMN, Electronics Technician, Nuclear Power—ETN, or Machinist's Mate, Nuclear Power—MMN.

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Time Limit for Degree Completion

Excelsior University degree programs are designed, within limits, to be completed at a student's own pace. However, students must make continuous progress toward their academic goals. Students will be dismissed if they do not complete the Bachelor of Science in Nuclear Engineering Technology at the conclusion of 10 years from their entrance into the program. Students may seek an extension of the time limit by completing an appeal form, which will outline a plan for completion. Students must submit this appeal no less than one trimester before reaching the 10-year degree completion time limit.

Credit for the National Registry of Radiation Protection Technologists (NRRPT)^①

The American Council on Education (ACE) College Credit Recommendation Service recommends the awarding of between 24 and 30 college credits for members accepted to the National Registry of Radiation Protection Technologists (NRRPT) from November 1978 to the present. Excelsior University recognizes the credit recommendations of the ACE College Credit Recommendation Service.

The Excelsior University faculty has reviewed the ACE credit recommendation toward the nuclear engineering technology requirement and may award 6 or 8 upper level credits toward the health physics/radiation protection requirement, depending on when the credit was earned. The remaining credits will be applied toward the nuclear engineering technology electives. Credit will be awarded upon receipt of official documentation from the NRRPT.

Credits from Training Programs Completed at United States Nuclear Power Plants That Are Accredited by the National Academy for Nuclear Training (NANT)^①

The Excelsior University Nuclear Engineering Technology Faculty evaluated several of the standardized training programs at nuclear power facilities that are accredited by NANT. The 10 utility training programs that have been evaluated for college credit are:

- ▶ Shift Technical Advisor
- ▶ Senior Reactor Operator
- ▶ Reactor Operator
- ▶ Non-licensed Operator
- ▶ Engineering Support Personnel
- ▶ Radiation Protection Technician
- ▶ Chemistry Technician
- ▶ Electrical Maintenance Technician
- ▶ Instrumentation and Controls Technician
- ▶ Mechanical Maintenance Technician

Credits from Training Programs Completed at the United States Navy Nuclear Power School and Prototype^②

The Excelsior University Nuclear Engineering Technology Faculty evaluated several of the standardized training programs at the United States Navy Nuclear Power School and Prototype, and Excelsior University recognizes the credit recommendations of the ACE College Credit Recommendation Service. The standardized training programs that have been evaluated for college credit are:

^① Students may earn between 24 and 52 credits, depending on the utility training program completed. Contact a technology academic advisor for details.

^② Graduates of the United States Navy Nuclear Power School and Prototype may earn between 59 and 76 credits, depending on the specific training program completed. Contact a technology academic advisor for details.

NUCLEAR FIELD 'A' SCHOOL	
MM, January 2007–present	12–27 credits
EM and ET, January 2004–present	
NAVY NUCLEAR POWER SCHOOL	
January 2007–present	32–34 credits
PROTOTYPE TRAINING	
January 2007–present	15 credits

BACHELOR OF SCIENCE IN PSYCHOLOGY

120
CREDITS

GENERAL EDUCATION AND ADDITIONAL REQUIREMENTS

Refer to chart on [page 38](#) for an overview of general education and distribution requirements for all bachelor's degree programs.

IND 101 Cornerstone A: Foundations or IND 301 Cornerstone B: Pathways

The Cornerstone course must be taken in the first term at Excelsior University and cannot be transferred in.

Ethics

DEGREE-SPECIFIC REQUIREMENTS

CORE REQUIREMENTS

- ▶ General Psychology: PSY 101 Psychology
- ▶ Statistics: MAT 201 Statistics
- ▶ Research Methods: PSY 305 Research Methods
- ▶ History and Systems/History of Psychology/Psychological Foundations: PSY 440 History and Systems

INTERMEDIATE AND UPPER LEVEL COURSES

One course in each of the five following areas.

- ▶ Biological and Physiological Foundations: PSY 380 Biopsychology
- ▶ Developmental Perspectives: PSY 235 Lifespan Development
- ▶ Social Influences: PSY 220 Psychology of Personality, PSY 360 Social Psychology or PSY 420 Human Motivation
- ▶ Abnormal Psychology: PSY 280 Abnormal Psychology
- ▶ Cognitive Bases: PSY 330 Educational Psychology or PSY 340 Psychology of Learning
- ▶ Psychology electives

LA 498PSY Psychology Capstone

The Capstone course must be taken at Excelsior University and cannot be transferred in.

This chart shows degree specific requirements. These requirements will fit into total credits for the degree and will apply toward the overall credits listed on [page 38](#). Once you are enrolled, the My Academic Planner tool will specify how credits (transfer and remaining) apply.

Program Description

Psychology is the study of behavior, thought, and feeling. It is a scientific field with broad application to human concerns. Full appreciation of its subject matter is gained through developing familiarity with a variety of perspectives, including biological, social, and cognitive origins of behavior. We encourage you to develop an understanding of the breadth of the discipline of psychology and to study some of its core concepts in depth. We recommend that you include in your degree plan either one course that is natural sciences-oriented or a sampling of courses that examine human behavior from the perspective of biology and natural sciences.

Of the 120 credits for the Bachelor of Science in Psychology, a total of 30 must be earned at the upper level (21 credits in the arts and sciences and 9 in electives). As part of these credits, for the core component of this degree, a minimum of 33 credits must be earned in the field of psychology, of which 18 must be at the upper level. A minimum GPA of 2.0 is required in the major.

Program Outcomes

Students who complete the degree in psychology will be able to:

1. Describe key concepts, principles, and overarching themes in psychology.
2. Use scientific reasoning to interpret psychological phenomena.
3. Apply ethical standards to evaluate psychological science and practice.
4. Exhibit effective presentation skills in a variety of media for different purposes.
5. Apply psychological content and skills to career goals.

Core Requirements

- A. General Psychology/Introductory Psychology: **PSY 101 Introduction to Psychology I**
- B. Statistics (psychological or equivalent): **MAT 201 Statistics**
- C. Research Methods/Experimental Psychology/Experimental Design: **PSY 305 Research Methods**
- D. History and Systems/History of Psychology/ Psychological Foundations: **PSY 440 History and Systems**

E. Psychology Capstone Course

The Psychology degree requires the completion of the Excelsior University capstone course **LA 498PSY Psychology Capstone**, with a grade of C or better. The capstone course must be taken at Excelsior University and cannot be transferred in.

Prerequisites: Completion of Written English, Information Literacy, and Ethics requirements, 12 upper level credits in psychology (including **PSY 305 Research Methods** and **PSY 440 History and Systems**), students must be within 15 credits of degree completion.

Intermediate and Upper-Level Courses

In central knowledge areas or sub-disciplines of psychology, including a minimum of one course in each the five following areas:

- A. **Biological and Physiological Foundations**—biopsychology, physiological psychology, animal behavior, comparative psychology, perception, sensation, neuroscience: **PSY 380 Biopsychology**
- B. **Developmental Perspectives**—developmental/child psychology, human development, psychology of adolescence, adult development/aging, lifespan

continued on next page

development, foundations of gerontology:
PSY 235 Lifespan Developmental Psychology

Contact your advisor to discuss avoiding duplication in the Developmental Perspectives area.

- C. Social Influences**—personality theory, social psychology, motivation, counseling theory and practice, group counseling, group dynamics:
PSY 220 Psychology of Personality, PSY 360 Social Psychology, PSY 420 Human Motivation
- D. Abnormal Psychology**—abnormal psychology, developmental disorders, psychopathology: **PSY 280 Abnormal Psychology**

A psychology course in personality is strongly advised before taking a course in the abnormal psychology area.

- E. Cognitive Bases**—cognition, learning and/or memory, educational psychology, psycholinguistics, psychology of language, language development:
PSY 330 Educational Psychology, PSY 340 Psychology of Learning

Electives

Additional psychology courses including advanced courses built on the foundation of the courses listed herein or within the following specialized areas: applied psychology, behavior modification, clinical methods, death and dying, exceptional children, human services, community psychology, industrial psychology/human factors, measurement (psychometrics), psychology of adjustment, psychology of disability, psychology of women, psychopharmacology, sex differences, sexuality/reproduction, states of consciousness, stress, substance abuse/rehabilitation, independent studies/research/advanced labs.

PSY 316 Mind, Body and Health, PSY 331 Psychosocial Impact of Chronic Illness

on Person and Environment, PSY 362 Psychology of Human Sexuality, PSY 365 Psychology of Diversity

Information Literacy

All student must meet the Excelsior University information literacy requirement by completing **INL 102 Information Literacy** within the first 13 Excelsior University credits attempted.

Cornerstone Course

All students must meet the Excelsior University Cornerstone requirement by completing **IND 101 Cornerstone A: Foundations** or **IND 301 Cornerstone B: Pathways** with a grade of C or better, in their first term of credit-bearing activity after admission to Excelsior University.

Capstone

All students must meet the Excelsior University Capstone requirement by completing the capstone course that aligns with their degree program, with a grade of C or better.

UNDERGRADUATE COURSES AT **EXCELSIOR UNIVERSITY**

ACC 211 Financial Accounting 3 credits*Prerequisite: none*

Have you ever wondered how to read a financial statement? Does your job require you to manage a budget? In this course, you will not only begin to understand what accounting means, but we will further examine how important accounting really is. You will not only learn and understand accounting principles and processes, but also examine how these can be applied in typical real-world contexts.

ACC 212 Managerial Accounting 3 credits*Suggested Prerequisite: ACC 211 Financial Accounting*

This course is intended to help you develop an understanding of the process of identifying, measuring, analyzing, interpreting, and communicating information in pursuit of an organization's goals. By the end of the course, you should be familiar with technical skills for solving problems such as the fundamentals of basic unit costs, cost flow management systems and processes, budgeting and performance measurement, and cost analysis and pricing decisions. As a manager, you should be able to identify relevant information, the appropriate methods for analyzing information, and working together with a team of addressing global and ethical issues. You will be able to think on your feet and address real-world business issues.

ACC 314 Intermediate Accounting I 3 credits*Suggested prerequisites: ACC 211 Financial Accounting (or equivalent), and ACC 212 Managerial Accounting (or equivalent).*

This course expands on topics covered in previous accounting courses to provide an in-depth study and review of accounting principles, concepts and theory. Concepts addressed in this course focus on the conceptual framework, generally accepted accounting principles, preparation of financial statements, the time value of money, cash and receivables, accounting for inventory and inventory valuation.

ACC 315 Intermediate Accounting II 3 credits*Suggested Prerequisite: ACC 314 Intermediate Accounting I, or equivalent.*

This course builds on accounting topics presented in Intermediate Accounting I to prepare students for a career in the accounting field. Topics in this course will address the proper accounting procedures for property, plant and equipment, investments, liabilities and contingencies, bonds and long-term notes, and leases. Upon completion of this course, students will have a substantial knowledge base in accounting methods, according to Generally-Accepted Accounting Principles (GAAP).

ACC 360 Cost Accounting 3 credits*Prerequisite: none*

A knowledge of the costs of a business can mean the difference between the long-term survival of the organization or business failure. An ability to understand and access costs is a vital prerequisite to long term growth and profitability. In this course, you will develop an understanding of cost behavior, systems, techniques, planning and control, relevant cost information for short-term decision-making and accounting data in long-term capital budgeting decisions.

ACC 400 Auditing 3 credits*Prerequisites: Minimum of Financial Accounting and Managerial Accounting. It is preferred that the student has also completed Intermediate Accounting I and II.*

This course is intended to help you understand the theory of auditing, including the educational and ethical qualifications for auditors, as well as the role of the auditor in the American economy. By the end of the course, you should be familiar with the professional standards, professional ethics, and the legal liability of auditors. As a manager, you should be able to effectively plan and design an audit program, gather and summarize evidence, and evaluate internal controls.

ACC 415 Advanced Financial Management 3 credits

Prerequisite: none

The financial well-being of individuals and families requires managers to weigh risk versus return, in making investment decisions for corporations. Financial skills are also applied in your personal life, as you accept a loan, save for retirement, or apply for a mortgage. This course is designed to strengthen your capacity to make complex financial decisions—to evaluate assets, investments, financing options, instruments, and opportunities.

ACC 417 Individual and Corporate Taxation 3 credits

Prerequisite: none

This course provides an understanding of the principles of federal income tax and its applications. It will identify and analyze federal tax issues to support the design of effective tax plans used to ensure tax compliance and improve financial decision-making. Upon completion of the course, students will be able to recognize and evaluate fundamental tax issues that affect both individuals and corporations.

ART 101 History Of Western Art: Ancient Through The 14th Century 3 credits

Prerequisite: none

We explore Western art from its earliest known forms, dating as far back as 30,000 BCE, to the beginnings of civilization in Mesopotamia and Egypt. We will look at the Mediterranean cultures of the ancient Aegean, Greece, and Rome and the religious visual expressions of the Middle Ages, including spectacular Gothic cathedrals. The course will help you see how art reflects culture through discussions, analytic writing, and an acquired familiarity with great specific examples from each period.

ART 102 History Of Western Art Since The 15th Century 3 credits

Prerequisite: none

This course will empower students to look at and understand Western art from the time of the Renaissance to the early 20th century, covering painting, sculpture, and architecture. It focuses on the power of perception and visual storytelling so that students become engaged with specific art examples from each period and culture. Students will analyze famous works by Michelangelo, Caravaggio, Vincent Van Gogh, and many more brilliant artists. By developing a sophisticated eye, students will learn how artworks reflect their cultural origins and their individual creators, who give shape and meaning to their art. By the end of the course, students will be surprised at their recognition and knowledge of art that they see operating in American culture now.

All materials are open educational resources, meaning they are all available online with no expense to the student.

BIO 110 Biology (Non-Lab) 3 credits

Prerequisite: none

This is a course designed for students who need to complete the General Education requirement for math and science as well as for those considering majoring in the natural sciences. The course covers the major areas of study and aspects of life on our planet explored by biologists. The course moves from the cellular and biochemical level through all classifications of living organisms to the examination of ecology and the biosphere. Students will also spend time examining the process of evolution for both populations and species. There is a final project that the students will work on throughout their time in the course. This final project is a presentation that will utilize both audio and video recordings. Several discussions in the course will require audio recordings to be submitted. Students are expected to be able to access the appropriate technologies to complete these assignments. Freely available technology options will be provided in the course.

Students needing the laboratory experience concurrently should register independently for BIO 111 Biology Laboratory (1 credit)

BIO 111 Biology Laboratory 1 credit*Prerequisite: none*

This one-credit laboratory-based course will engage you in several virtual laboratory activities using Labster, a virtual laboratory program, and additional activities. As you complete each laboratory exercise, you will answer questions to demonstrate your understanding of the material. Upon completion of these virtual labs, you will learn about laboratory safety, scientific method, energy utilization, cellular reproduction, genetics, evolution, and ecology.

**BIO 115
Anatomy and Physiology I (Non Lab)** 3 credits*Prerequisite: none*

This course focuses on the structure and function of the human body. Topics and body systems that will be studied include: the chemistry of life, histology and the integumentary system, skeletal and articulation system, muscular system, nervous system, sensory system and the endocrine system.

This course duplicates BIO 105/HSC 105. Credit for only one of these courses will be applied toward graduation.

BIO 115L Anatomy and Physiology I LAB 1 credit*Prerequisite: none*

This is a laboratory course that utilizes simulations and hands-on experiments to study body systems that include: cells, blood, integumentary system, muscular system, nervous system, skeletal system and the endocrine system. Students use the scientific method in an experimental environment, learn and use safe laboratory practices, perform dissections, perform experiments, gather and analyze data, and present data and conclusions in scientific laboratory reports.

This course duplicates BIO 105L/HSC 105L. Credit for only one of these courses will be applied toward graduation.

**BIO 116
Anatomy and Physiology II (Non Lab)** 3 credits*Prerequisite: none*

This course focuses on the structure and function of the human body. Topics and body systems that will be studied include: the chemistry of life, histology and the integumentary system, skeletal and articulation system, muscular system, nervous system, sensory system, and the endocrine system.

This course duplicates BIO 106/HSC 106. Credit for only one of these courses will be applied toward graduation.

BIO 116L Anatomy and Physiology II Lab 1 credit*Prerequisite: none*

This is a laboratory course that utilizes simulations and hands-on experiments to study body systems that include: temperature regulation and metabolism, fluid and electrolyte balance, digestive system, respiratory system, cardiovascular system, urinary system, the reproductive system, and human development and genetics. Students use the scientific method in an experimental environment, learn and use safe laboratory practices, perform dissections, perform experiments, gather and analyze data, and present data and conclusions in scientific laboratory reports.

This course duplicates BIO 106L/HSC 106L. Credit for only one of these courses will be applied toward graduation.

BIO 212 Microbiology 3 credits

Suggested prerequisites: BIO 110 Biology, BIO 111 Biology Laboratory. Intro course in Chemistry highly recommended.

In this comprehensive introductory course in microbiology, students are introduced to cellular microbes, such as bacteria, protists, fungi, and helminthes, and non-cellular microbes, such as viroids, viruses, and prions and how they are classified. In addition, students explore the impact of these microbes on the environment, human health, and society. Introduction to Microbiology covers the biological and biochemical foundations and scientific methods necessary to understand

microbial growth and metabolism and provides a historical perspective by reviewing the major scientific contributions that led to modern-day microbiology.

BIO 261 Introduction to Human Genetics

This course provides an overview of the field of Human Genetics from its beginning, Mendelian genetics, through the chromosomal theory of inheritance, the evolution of molecular genetics to the modern techniques of genetic engineering. Applications of human genetics in the health-care field will be included with topics on genetic counseling and the bio-psych-social aspects of various genetic based diseases. The basic concepts in cell structure and function will be reviewed as a foundation. Discussion of political and sociological implications of the ever-expanding understanding of genetics and heredity will complement the exploration in this field.

This course duplicates BIO 260/HSC 260. Credit for only one of these courses will be applied toward graduation.

BIO 300 Advanced Investigations in Biology

3 credits

Suggested prerequisites: BIO 110 Biology and BIO 111 Biology Laboratory, or equivalent.

This course is a wide-ranging examination of advanced concepts, topics, and research methods in the biological sciences. Through virtual laboratory experiments, you explore topics including epidemiology, cardiac physiology, natural selection and evolution, and population genetics while you strengthen your analytical and writing skills with laboratory reports. It is strongly recommended that students have successfully completed at least an introductory course in biology prior to enrolling in this course.

BIO 320 Evolutionary Biology

3 credits

Suggested prerequisites: BIO 110 Biology (non-lab) and HSC 280 Human Genetics (or equivalent).

This is a course designed for students in the Natural Science major and those who are interested in the sciences with a strong background in biology. There is a laboratory activity integrated into the course and it will be counted as an upper

level lab experience. This course explores the history of the Theory of Evolution from the work of Charles Darwin to modern day evolutionary studies using the latest technologies such as gene mapping, proteomics, epigenetics, and DNA analysis. Students will explore examples of evolution for a variety of species and follow the evolutionary pathway for one particular species as a final project. This course is reading and writing intense but has all the reading materials available within the modules and the EC Library. No textbook purchase is required for this course. This course requires a video presentation as well as a final paper.

BIO 340 Biodiversity

3 credits

Suggested prerequisites: BIO 110 Biology, or equivalent.

Scientists have stated that we are experiencing the sixth mass extinction of biological diversity since the Earth formed and that we may well be in a new geological age, the Anthropocene Epoch. Through readings and numerous activities, this course examines the rise and fall of biological diversity over time through the study of ecology, evolution, and conservation biology. Topics include the meaning and value of biodiversity, major threats to species and ecosystems, and efforts to conserve, manage, and sustain biological diversity.

BIO 360 Developmental Biology

3 credits

Suggested prerequisites: BIO 110 Biology

Recent advances in molecular tools have allowed developmental biologists to explore the genetic mechanisms that result in the diversity found in nature. In this course you will learn about the development of living organisms from the gene to the ecosystem levels. You will also compare what happens when an organism is under an environmental stress and how this stress affects development. Finally, you will explore ethical considerations as we discuss classic model systems and along with some of the current research of developmental biology.

BIO 400 Nature of Plants 3 credits

Prerequisites: BIO 110 Biology (non-lab) and BIO 111 Biology Laboratory, or equivalent.

For centuries we have collectively marveled at plant diversity and form—from Charles Darwin’s early fascination with stems and flowers to Seymour Krelborn’s distorted doting in *Little Shop of Horrors*. This course intends to present an intriguing and scientifically valid look at how plants function and interact with humans. The course will highlight the latest research in biotechnology and much more. We will explore the inner lives of plants and draw parallels with human civilization to reveal that we have much more in common with and a need for plants in our daily lives. This highly interdisciplinary course meshes historical studies with cutting edge modern research and will be relevant to all humans who seek their place in nature.

BNS 101 Introduction To National Security 3 credits

Prerequisite: none

This course is situated at the intersection of American politics and international relations—its purpose is to examine the formulation and implementation of national security policy. In this process of our study we consider several distinct conceptual frameworks of policy formation, the actors involved in policymaking and the political-domestic and global interactions that determine grand strategy and security politics in an advanced democracy. Specifically, we examine the international environment and the contemporary threat system, the authority granted by the Constitution to actors such as Congress, the Presidency and various executive department and agencies (Defense, Homeland Security, CIA, etc.) and the roles they fulfill in preserving national security and advancing the national interest.

BNS 301 National Security Ethics And Diversity 3 credits

Prerequisite: none

Have you ever wondered if a decision you made or an action you took was “right” - for yourself and for others; for the many, even if not for some few? Have you ever thought deeply upon the classic question—do the Ends justify the Means? In this course you will engage these and other questions, while also focusing on the practical study of ethics in the national security arena. You will examine ethical subjects and dilemmas facing individuals, institutions, societies and governments, both at home and abroad. You will examine ethical concepts and principles to find meaning in specific behaviors, and theory will be related to real-world application. You will evaluate how ethical principles relate to diversity considerations and practices in the national security arena. The ethical and diversity dimensions of public service and national security are explored through a focus on officials working in the broad range of occupations in national security.

BNS 303 Comparative National Security Analysis 3 credits

Prerequisite: none

This course focuses on the complexities associated with the national interests and security of nations and non-state actors in international relations. Covering aspects of sociology, economics and practical analysis, the course comprises eight topical modules. It allows the student to become familiar with the underlying economic and sociological factors which compel nations and non-state actors to seek local and international partnerships or conflict. The course will benefit military and security operators as well as students of international relations, macro-economics and political science.

BNS 305 Cybersecurity in National Security 3 credits

Prerequisite: none

This course focuses on the emerging security issues that arise from an ever increasing presence of computers and computer enabled devices in the defense, intelligence, and economic fabric of modern life. This course examines the definitions of cybersecurity and cyber risk in a national security context in order to inform future leaders and practitioners of the opportunities and challenges of cyberspace. This course concentrates on the policy dimensions of cybersecurity rather than the technical aspects of network defense and attack. Issues of cybercrime, cyber espionage, cyber war, and cyber diplomacy will be considered. Future leaders in national security must understand the possible approaches to cybersecurity and the impacts cyber policy can and will have on U.S. National Security as well as global security.

BNS 307 Intelligence in National Security 3 credits

Prerequisite: none

This course focuses on the United States Intelligence Community and the processes to collect, analyze, and disseminate intelligence to national security policymakers. Students examine what intelligence is, the development of the Intelligence Community agencies, and the role each agency contributes to national security. Application of critical thinking is used to determine the methodology of conducting intelligence in a democracy in order to define what the Intelligence Community can, or cannot do. This course will benefit students interested in national security, military studies, international relations, and political science.

BNS 498 National Security Capstone 3 credits

Prerequisite: The capstone course is restricted to students majoring in National Security with senior standing. Students must have completed all other required courses for the major, completed both the information literacy and written English requirements. Students must also be within 15 credits of degree completion and obtain advisor approval to register for this course.

The National Security capstone seminar course is the culmination of your undergraduate education. Upon completion of this course, you will have earned a bachelor's degree in National Security, a valuable degree in your ongoing professional development and continued service within the national security community. Yet, it is murkier now more than ever as to what American "nation" is to be secure against which threats, and through which means? Your previous coursework illuminated the complex and interdisciplinary field of national security affairs, and some of the many security challenges facing the US at home and abroad. You have reviewed how nation-states around the world differ in these grand strategic formulation dilemmas, and, in this course, you will dive deeper still into the national security challenges confronting the US (and its key allies). You will examine several of these enduring and emerging threats and opportunities, as well as the particular challenges a democracy confronts in pursuing a successful grand strategy.

BUS 222 Business Communication 3 credits

Prerequisite: none

This course will provide students with knowledge and skills to effectively communicate in global business environments. Additionally, students will develop and evaluate both written and oral business communications. While learning to identify cultural aspects of verbal and nonverbal behavior of persons from different cultures and themselves, students come to recognize cultural differences that can cause communication challenges in management situations.

BUS 225 Consumer Behaviors 3 credits

Prerequisite: none

Why do some people have to be the first to buy the latest Apple iPhone? Why might lifestyle influence whether someone dines at Taco Bell? In this course we will answer questions such as these and also assess a range of factors, such as motivation, perception, learning, and the impact of demographics, family, and groups and examine their effect upon consumer behavior. You will

also study consumer behavior from the perspective of businesses, such as Apple and Taco Bell, and see how they use that knowledge to develop new or existing products and also how that insight drives marketing strategy.”

BUS 230 Business Law 3 credits

Prerequisite: none

This course presents the analysis of key legal issues affecting businesses with an emphasis on development of legal strategies to support the venture over its expected life cycle. It focuses on the legal environment of the United States. Students examine a series of real world scenarios and apply the legal tools developed during the course to those cases.

BUS 231 Business Data Literacy 3 credits

Prerequisites: Prior to taking this course, students should have a working knowledge of High School Algebra and mathematical tools such as formulas in Microsoft Excel, a TI-84 calculator, or some other equivalent. This course will not teach how to use these tools.

This course develops data literacy and statistical thinking and essential skills for business process improvement. Topics covered include descriptive statistics and data visualization, distributions, sampling, Central Limit Theorem, estimation using confidence intervals, statistical inference, and single and multiple regression analysis.

This course duplicates: BUS 233 Business Statistics, MAT 201 Statistics, MAT 215 Statistics for Health Care Professionals, and the Excelsior University Examination MATx210. Credit in only one of these courses/exams will be applied toward graduation.

BUS 235 Financial Markets and Institutions 3 credits

Prerequisite: none

This course studies the fundamental principles which govern global financial markets and institutions. Some topics include: characteristics of financial instruments and establishments, the Federal Reserve, monetary policy, the banking industry, and capital markets.

BUS 299 Business and Management Capstone 3 credits

Prerequisites: This is a required course in the A.A.S. Administration/Management Studies program. It is open only to A.A.S. Administration/Management Studies students who have completed all other Business core requirements and most, if not all General Education requirements.

The associate-level capstone course is an in-depth, student-centered learning experience which requires the integration of theory and practical experience. The course focuses on the key competencies expected of a graduate from the program in the following areas: general management, personnel administration, human and organizational behavior, ethics, communication skills, and leadership. During the course, students will apply their knowledge and skills in these areas to specific business projects.

BUS 300 Introduction to Entrepreneurship 3 credits

Prerequisite: none

Why did Mark Zuckerberg start Facebook? What skills did Jeff Bezos need that helped him grow Amazon? In this course we are going to look at the skills necessary to be a successful entrepreneur and also the mindset needed to thrive when others fail. This practical course will give you a hands-on look at some of the skills, concepts, and strategies that help the entrepreneur to launch a successful start-up and sustain it through the early stages of growth.

BUS 305 Principles of Insurance 3 credits

Prerequisite: none

Insurance for a variety of business and personal risks is a significant cost to corporations and individuals. This course introduces students to principles, concepts, and applications for understanding health, life/casualty, and property insurance. Students will develop an understanding of terms and issues relating to premiums, deductibles, policy coverage/terms, risks, underwriting, and regulations. The course will prepare managers with the tools necessary to make

effective and ethical decisions concerning their organization's insurance programs.

BUS 310 Entrepreneurial Marketing 3 credits

Prerequisite: There are no formal prerequisite courses for BUS 310. Students intending to take BUS 310 should review the syllabi for BUS 300 and satisfy themselves that their prior course work and business experience would result in their being able to effectively absorb the material in BUS 310.

Roughly 8 out of 10 small businesses fail within the first year of trading and inadequate marketing is often cited as the main reason for that failure. We will look at marketing in the start-up phase of a business and consider the activities needed in the first two years of a company's life. We will examine a range of marketing tools, such as PR, advertising, email, and assess best practice in terms of developing a successful marketing plan to increase the chances of success for the entrepreneur and the start-up business.

BUS 311 Organizational Behavior 3 credits

Prerequisite: ENG 101 College Composition

This course focuses on the crucial behaviors of organizations at the individual, group/team, and organizational level. It examines how external and internal forces influence behaviors such as leadership, communication, management, employee motivation, engagement, and valuing diversity. The focus on domestic and global organizations includes private, public, and military organizations and the impact of organizational behavior on the effectiveness of the organization.

BUS 312 Managing Human Resources 3 credits

Prerequisite: Principles of Management or the equivalent, or fulfillment of the BPS General Management requirement.

This course offers an overview of the role and context of human resource management, fair employment practices, human resource planning, human resource staffing, performance management, employee development, employee compensation, and labor relations. Students will apply personnel management theories to real-world scenarios.

BUS 313 International HR 3 credits

Prerequisite: none

This course provides an in-depth study for the human resources practitioner and international line manager to the legal, practical, and successful human resources strategies used by international companies in today's global economy. Students will examine best practices in the global environment. Topics include: recruitment and staffing, compensation, benefits, labor laws, employment-related taxation, leadership, management, and supervisory practices among international corporations, immigration, permanent resident and temporary work visa status, and expatriate and repatriation policies and practices with respect to recruitment, training, performance management, and repatriation.

BUS 315 Labor Relations 3 credits

Prerequisite: none

This course focuses on the study of the relationships between unions and employers, including various aspects of labor history, law, and collective bargaining. In addition, it will examine issues such as public sector unionism and unionism around the world. A core emphasis will be the changing nature of labor-management relations in the United States as a result of global competition and the internationalization of markets. Finally, the course touches on patterns of union resistance and preventive labor relations strategies.

BUS 323 Business Ethics 3 credits

Prerequisite: none

This course explores the nature of ethical business environments within the private and public sector. Today's complex, dynamic global environment requires business professionals who acknowledge, understand, and act appropriately when faced with inherent ethical challenges. This course prepares business professionals for these challenges by exploring ethics theory, personal values, and impacts of organizational culture. This leads to a deeper understanding of how ethical principles relate to the organizations in which people function, and the effects of the organization's ethics on its reputation, functioning, and performance.

BUS 325 Women In Business 3 credits*Prerequisite: none*

Although women have made inroads as managers and leaders, they still continue to lag their male counterparts in reaching the executive suites and boardrooms of many major organizations around the globe. This study will examine a number of theories and findings looking at the roadblocks women continue to face in their quest for upward mobility, as well as offering insight into how women are gaining access to upper management. Topics covered will include:

1. The economic strength of women as a market,
2. An examination of the status of women in the United States compared with other countries,
3. Obstacles faced by women such as the glass ceiling, nonlinear career paths, and work/life/family balance,
4. The importance of attracting and retaining talented women, and
5. Leadership styles and traits of women.

BUS 341 Management Concepts and Applications 3 credits*Prerequisite: none*

This course presents fundamental management theories while examining the manager's role in today's global business environment. Topics include the role of managers in the business environment, strategies for planning and decision-making, organization and controls, leadership, motivation, staffing, and managing change.

BUS 343 International Marketing 3 credits*Prerequisite: BUS 351 Marketing Concepts and Applications, or equivalent.*

This course introduces students to concepts, practical applications, and strategies for increasing an organization's competitive advantage through effective marketing behavior in the global business environment. Students will examine emerging issues and considerations faced by marketing managers due to business and governmental actions affecting trade, investment, and operations in the international marketplace. Students will evaluate social, cultural, ethical, legal, and economic environments to determine their impact on international marketing decision-making.

BUS 350 Principles of Finance 3 credits*Prerequisite: A course in Financial Accounting, or an introductory accounting course that included financial accounting. It is strongly recommended that Business students complete the Core program requirements in mathematics and statistics before taking this course. The ability to perform calculations in Microsoft Excel is assumed.*

An introduction to the discipline of finance, this course examines general principles of finance and corporate finance. Topics include financial objectives of the firm, the time value of money, risk and return, capital budgeting, the cost of capital, financial forecasting, and ratio analysis, working capital management, EVA and MVA concepts, and current and future trends in corporate finance.

BUS 351 Marketing Concepts and Application 3 credits*Prerequisite: none*

Successful businesses develop effective strategies to meet the needs of their customers. Marketing is about how businesses interact with consumers and the processes by which they anticipate, analyze, and meet their needs. It is both a philosophy of doing business and a management activity that puts the customer at the heart of everything that the organization does. Marketing ensures that the customer gets the right product, at the right time, and in the right place. Marketers both develop and apply a range of communications, creative, and technological techniques that allow them to work at both the tactical and strategic levels within organizations and across a range of global businesses and industries. In this course, we will look at some of the fundamental concepts of marketing and then explore how marketing managers can put them into practice in the real world.

BUS 352 Digital Marketing Fundamentals 3 credits*Prerequisite: none*

This course will focus on the fundamental concepts, tools, terminology, methods, and practices that relate to current trends in digital marketing by drawing from the very latest practitioner thinking. Students will explore and closely examine social media marketing as part of an

overall content marketing strategy. An exploration of search engine optimization, Pay Per Click (PPC), and digital display advertising, will give the student an overview of current methods and practices and provide practical application of the skills learned. Email, mobile and new technologies will also be evaluated. The importance of good analytics will also be emphasized with a review of the current thinking and practices. The course will culminate in the integration of some of the previous learning in terms of the development of a buyer persona, which forms a key element of a digital marketing strategy.

BUS 375 Marketing Management 3 credits

Prerequisite: BUS 351 Marketing Concepts and Applications, or equivalent.

This course provides students with the necessary tools and frameworks to better prepare them for making effective marketing decisions. Students will explore effective marketing strategies across global business organizations. They will investigate concepts, theories, and real-world applications to create and implement a marketing strategy for launching a product. This course focuses on both the strategic planning process and marketing's cross/inter-functional relationships. Students will discover market opportunities, forecasting, targeting, and brand positioning for new and mature markets. They will examine how to organize, plan, implement, and measure an effective marketing campaign.

BUS 380 Managing Diversity in the Workplace 3 credits

Prerequisite: none

This course introduces students to the concept of diversity consciousness, a concept that goes beyond diversity training to develop an awareness and understanding of diversity in all its aspects. It examines the demographic variables that include race, ethnicity, culture, religion, age, physical and mental ability and gender and sexual orientation, as well as socio-economic class and family status. It emphasizes the skills needed in working with and supervising a diverse workforce and reviews the obligations and rights of both the employer

and employee under the laws against discrimination enforced by Equal Employment Opportunity Commission in the USA.

BUS 381 Transportation, Warehousing, and Distribution 3 credits

This course provides a fundamental understanding of transportation, warehousing, and distribution operations within the logistics industry. The curriculum is built to enable students to competently utilize transportation and distribution models, including identification of end-to-end consumer requirements. Throughout its duration, this course will offer numerous examples of how to incorporate transportation, warehousing, and distribution strategies. Inventory control decisions; supply chain requirements; intermodal operations; and, distribution efficiencies are stressed within the curriculum and cases.

BUS 425 Operations Management 3 credits

Prerequisite: A course in Statistics or equivalent knowledge is required

This course provides an overview of the systematic planning, designing, operating, controlling, and improving processes that transform inputs into finished goods and services. It develops students' abilities to recognize, model, and solve problems inherent in production and service environments. Specific topics include product and process design, queuing, facility layout and location, linear programming, decision analysis, forecasting, and inventory models.

BUS 431 Business Data Analysis 3 credits

Prerequisite: BUS 231 Business Data Literacy

The over-arching goal of this course is to help managers make better decisions. In this course, students will learn how to develop Excel statistical and decision models and create basic data visualizations, which are necessary to be competitive in a professional work environment. Students will review important statistical methods; use of time series for forecasting; application of regression analysis; and aspects of decision theory, which include model building, linear optimization, simulation, optimization, and

methods to effectively communicate the results and rationales to management. The course also includes use of Tableau to create more effective data visualizations and data stories.

Microsoft Excel (Mac or PC) is required. Cloud-based versions of Excel are not recommended. The ability to install 3rd party Excel add-ins on your PC/Mac is required. All Mac students should upgrade to Office/Excel 2016 as Excel for Mac 2011 does not have full functionality with other important tools we use in the course, e.g. Pivot Tables.

BUS 435 International Business 3 credits

Prerequisite: none

In this course, we'll examine and analyze global business in its historical, theoretical, environmental, and functional dimensions. Our focus will be on understanding the growing economic interdependence of nations and the impact of that interdependence on managerial and corporate policy decisions that transcend national boundaries.

This course will also provide an introduction to globalization and the cultural, economic, political, and legal environments of international business, including an overview of risks, challenges, and opportunities of competing in the global marketplace.

Your key challenge will be to develop and present a business plan to launch a product or service of your choice in a foreign market.

BUS 437 Securities Analysis 3 credits

Suggested prerequisite: BUS 350 Principles of Finance

The financial crisis of 2007 showed the importance of securities to our daily lives. This course focuses on the tools of fundamental analysis, the concept of risk and investment management. Students examine security valuation, risk measurement, portfolio diversification and portfolio performance measurement preparation of pro forma financial statements. The goal of the course is to provide students with a strong theoretical and applied understanding of the valuation of equity securities.

BUS 440 Business Supply Chain Management 3 credits

Prerequisite: none

This course presents an examination of logistics and supply chain systems. The focus is on analyzing, designing, and implementing systems. Topics include supply chain management strategy, planning, and operations; the role of e-commerce; and financial factors that influence decisions. Discussion also covers the trade-offs between cost and service and between the purchase and supply of raw materials; the warehousing and control of inventory; industrial packaging; materials handling within warehouses; and the distribution of finished goods to customers required to minimize costs, maximize profits, or increase customer service levels.

BUS 442 Inventory Management 3 credits

Prerequisite: none

This course provides a fundamental understanding of inventory management, control, and turnover as applicable to procurement and logistics operations. The curriculum is designed to enable students to competently utilize inventory management techniques, including costing (ordering, holding, and carrying); demand (both deterministic and probabilistic); inventory modeling; stocking, restocking, and outsourcing; and, the use of inventory management technology. Throughout its duration, this course will offer numerous examples of how to apply "fill rate concepts"; "material handling and storage methods"; "logistics storing and tracking procedures"; and, "order cycle time techniques". Inventory forecasting, supply & demand management, and inventory planning are stressed within the curriculum and cases.

BUS 443 Lean Logistics 3 credits

Prerequisite: none

This course provides a fundamental understanding of lean applications toward inbound and outbound logistics networks, and the role of leadership to develop corporate logistics strategy. The curriculum is built to enable students to competently utilize professional lean logistics methods

and techniques, including identification of areas of waste, ability to decrease inventory, and increase logistics throughput. This course will offer numerous examples of how to apply “lean logistics thinking”; “total logistics cost”; “logistics demand patterns”; and, “logistics planning-operational bridging techniques”. Cross-functional logistics teamwork, logistics operational strategy, logistics functions, inventory reduction, and operational logistics networks are stressed within the curriculum and cases.

BUS 450 Operations Strategy 3 credits

Prerequisite: BUS 425 Operations Management, or equivalent.

Production management is crucial for achieving efficiency in manufacturing and service industries in today’s marketplace. Students will explore the connections between various business activities and processes which impact production. Some of these areas include the organization’s ability to meet product specifications, adhere to contractual requirements, schedule deliverables, and effectively utilize available resources to attain profitability. Students will study the influences on production outcomes, with an emphasis on facilities layout, capacity management, process analysis, quantitative work measurement, and production control. The course will enhance students’ understanding of production activities, processes, and systems by investigating business tools for effective production management.

BUS 452 Business Leadership 3 credits

Prerequisite: none

This course will examine the differences and continuities between management and leadership, and also explore the current theories and styles in contemporary leadership thought, such as the more recent interest in servant leadership. Evaluating the skills and tools needed by the effective business leader, we will also assess leadership in context and examine the important role of strategic leadership in the management of change in a world that is increasingly volatile, uncertain, complex, and ambiguous.

BUS 453 Recruitment and Selection 3 credits

Prerequisite: none

This course explores the human resources processes of recruitment and selection of employees, and allows you to formulate workplace standards based on the law, ethics and best practices. This course will allow you to examine, analyze and recommend strategies to recruit and select the best employees as well as how to process the hiring and how to retain those employees over the long term. This course examines Recruitment and Selection Strategies, Discrimination in Hiring, Affirmative Action, and Independent Contractors. You shall explore, analyze and utilize the Equal Opportunity Employment Commissions website set up by the US government as it is the foremost authority on these issues and is regularly updated with any changes. The EEOC (Equal Employment Opportunity Commission) website is a resource that will be used extensively in this course just as it will be in your career in Human Resources. The exploration and analysis of these issues will lead to a deeper understanding of how to develop strategies for effective recruitment, selection and retention of the best employees.

BUS 454 HR Analytics 3 credits

Prerequisite: none

You will investigate the complex field of Human Resource (HR) analytics, including how decision making in organizations is facilitated or impeded by existing information architecture and processes, methods for improving an organization’s analytical capabilities, and facilitating analytics technology implementations. A major focus of the course will be on the use of human resource information systems (HRIS) for collecting and analyzing human resource data. Students will learn how to apply analytical processes and technologies to enable strategic decision making by an organization’s leaders. In addition, students will learn how to improve organizational effectiveness through the use of human resource technology. Both enablers and barriers to effective deployment of HR analytics technologies will be discussed, as well as issues related to data integrity and data governance. You will be challenged to apply an HR analytics

framework to a robust healthcare organization case study, developing a combination of descriptive and predictive measures.

BUS 460 Market Research 3 credits

Prerequisite: none

This course examines the systematic design, collection, analysis, and reporting of data relevant to the marketing function within the organization. It specifically addresses the growing role that technology plays in predicting consumer behavior, marketing trends, addressing marketing problems, and the development of new products and services.

BUS 480 Global Business Strategy 3 credits

Prerequisite: BUS 435 International Business, or equivalent.

The course examines business-level global strategies whose purpose is to create competitive advantages in the global market. It also examines the cultural, political, legal, and economic international environment; global trade theories; foreign direct investments; foreign exchange; country evaluation and selection; collaborate strategies; control strategies; risk management; international marketing; import-export; international finance; international accounting and tax; international management; and international human resources.

BUS 490 Integrated Business and Management Assessment BPB 3 credits

Prerequisite: none

A capstone course in the Bachelor of Professional Studies (BPS) in Business and Management. Students will analyze complex management situations to make strategic decisions related to process improvement.

BUS 499 Strategic Management Capstone 3 credits

Prerequisite: This course requires prior completion of all core business courses. As you start this integrative course in business, you are expected to already possess an understanding of account-

ing, finance, marketing, economics, management, strategy, and ethics. You should be familiar with computer applications and quantitative analysis.

This capstone course is a culminating course that allows students to integrate concepts, principles, and methods from all fields of business. Students will draw on their foundational core business knowledge and professional competencies to solve business problems typically found in the real-world. The competencies for this course were developed by faculty and industry experts and validated by industry advisors to ensure the goals of the course are aligned with job market requirements. The business simulation will incorporate the program knowledge and competencies acquired in accounting, finance, operations, information technology, marketing, management, diversity/inclusion, and business ethics. Additionally, the simulation and class readings and resources are designed to foster students' strategic thinking and strategic management decisions. In so doing, additional discussion and writing assignments will highlight business writing, critical thinking, adaptive performance, and business communication. Throughout this class, students will be expected to integrate their learning across the business curriculum, evaluate their individual strengths and weaknesses, and develop an action plan to ensure their life-long learning and adaptability in the business environment.

CHE 101 General Chemistry I 3 credits

Suggested prerequisites: MAT 114 Intermediate Algebra, or equivalent and high school chemistry.

General Chemistry examines topics including chemical nomenclature, measurement, states of matter, the atom, chemical bonding, solutions, stoichiometry, and thermochemistry, and how these apply in the world around us. The purpose of this course is to introduce you to the world of chemistry which covers such topics as the structure of the atom and the basic physical laws that govern matter. You will learn about the processes chemists and scientists use to determine the composition and nature of matter.

CHE 101L General Chemistry Laboratory I 1 credit

Prerequisites: CHE 101 General Chemistry I, or equivalent.

The purpose of this course is to learn how to apply the scientific method to the study of various chemistry topics and to gain experience using a formal scientific experimental process with analysis and calculations to mirror the research and experimentation used in the field of chemistry.

CJ 101 Introduction to Criminal Justice 3 credits

Prerequisite: none

This course provides an overview of the criminal justice system in the United States. Students develop their understanding of criminal justice by acquiring a basic knowledge of the law, legal theories, and administrative challenges. The entire process from arrest through conviction, incarceration, and reentry into society are covered. The course also explores foundational areas, such as individual rights versus public order, defining and measuring crime, knowledge of criminal law, and the challenges, issues, and limitations facing law enforcement within the context of the U.S. Constitution.

CJ 110 Introduction to Law Enforcement 3 credits

Prerequisite: none

This course examines the history, evolution, roles, legal foundations, and challenges faced by contemporary law enforcement. The structure of law enforcement agencies, personnel, and administration will be discussed. Emphasis will be placed on the functions, responsibilities, and public accountability of law enforcement within American society, as well as career opportunities and alternatives in the field of law enforcement.

CJ 120 Introduction to Corrections 3 credits

Prerequisite: none

This course covers the history, organization, and functions of corrections within the criminal justice system, and emphasizes the evolution of corrections for the rehabilitation of offenders. Topics covered include the various forms of corrections, alternatives to incarceration, types of inmates and their issues, and the future of correctional systems in American society.

CJ 256 Criminal Justice Administration 3 credits

Suggested prerequisite: CJ 101 Intro to Criminal Justice, or equivalent.

This course provides a comprehensive discussion of criminal justice administration through the integration of relevant theories, research findings, and the application of best practices within criminal justice organizations. Included in this course are the basic concepts of an organization, management, and the criminal justice system's environment; issues regarding communication, motivation, leadership and job design. Additionally, the areas of group behavior and processes within criminal justice organizations regarding occupational socialization, power and political behavior, organizational conflict and effectiveness, decision-making, and change and innovation will be covered.

CJ 265 Criminal Procedure and Evidence 3 credits

Suggested prerequisite: CJ 101 Intro to Criminal Justice, or equivalent.

This course provides a comprehensive review and in-depth analysis of the rules of evidence and criminal procedural law in the United States. Students will analyze case law which interprets the constitutional guarantees afforded by the 4th, 5th, 6th, 8th and 14th Amendments, and the admissibility of evidence in court proceedings. Particular emphasis is placed upon arrest, search and seizure, confessions and admissions, the privilege against self-incrimination, the right to counsel, the exclusionary rule and its exceptions, burden of proof, and procedural due process.

CJ 298 Criminal Justice Capstone 3 credits

Prerequisites: Students must have completed all other requirements of the degree, completed the written English requirement, and completed the Information Literacy requirements. Students must be within 12 credits of degree completion.

The capstone course is intended as the last course for students in the criminal justice major. Students must have completed INL, WER and their required criminal justice coursework prior to taking this course. Also, a student must be

within 9 credits of degree completion and obtain academic advisor approval to register.

The capstone course is designed to allow learners the opportunity to coalesce what they have learned about criminal justice throughout the program. Learners will analyze various aspects of the criminal justice system and apply their knowledge to discuss, generate, and propose solutions regarding technical, legal, ethical and demographic issues that may arise in this field.

CJ 301 Juvenile Delinquency and Justice

3 credits

Prerequisite: none

This course explores the judicial processes employed in handling minor criminal offenders; those generally under the age of 18 years. These include arrest, legal guardian responsibilities, sealed court records, case adjudication, sentencing and juvenile corrections. Also covered are the biological, psychological, and sociocultural aspects of delinquency and its causes, potential deterrence and rehabilitation modalities.

This course was cross-listed with SOC 301. Credit for only one of these courses will be applied toward graduation.

CJ 315 Gangs in America

3 credits

Suggested prerequisite: none

Gangs continue to scourge the American criminal justice system. Since the 1990s street gangs have multiplied in number and are no longer simply an inner-city problem. The nationwide effort to manage this enigma is far reaching beyond just criminal justice professionals. The problem is a complex one that is far reaching into the homes of every citizen in every community. This course is designed to assist students in developing an understanding of what a street gang is, provide an overview of the historical and contemporary street gang, and examine efficacy of some past and current methods used to address their influence. Particular attention will be devoted to gang types, diversity, theoretical explanations as well as an analyze the responses, intervention and prevention strategies, and public policy issues.

The content in this course is mature and may be disturbing. It should be given serious consideration and treated with due diligence.

CJ 324 Criminology

3 credits

Suggested prerequisite: CJ 101 Intro to Criminal Justice, or equivalent.

This course provides an in-depth study of the nature and causes of crime and criminal behavior. Using a multidisciplinary approach, the course focuses on criminal topologies and criminological theories. Topics range from crime causation to the extent of crime, victimization, and social and psychological theories. Learners will address various types of criminality such as violence, property crimes, and public offenses, as well as the application of these theories to criminal justice policies and procedures.

This course was cross-listed with SOC 324. Credit for only one of these courses will be applied toward graduation.

CJ 330 Judicial Process

Suggested prerequisite: none

This course will familiarize students with theories and applications of deviance, deviant behavior and the social interactional process of “being deviant”. Students will read original texts and begin to understand the larger body of social interaction research in Sociology and Anthropology that have given rise to contemporary theories of deviance and learn to relate these concepts to other bodies of work in the fields of social science such as Criminal Justice. Students will also learn to apply the ideas from their theoretical reading to contemporary life and to their own personal and professional experience. In addition to reading, writing and discussion, students will engage in a short field activity during which time they will have the opportunity to make their own scientific observations of deviant behavior.

CJ 360 Forensic Pathology (Non-Lab)

3 credits

Suggested prerequisite: CJ 101 Intro to Criminal Justice, or equivalent.

This course offers a practical approach to forensic pathology as it applies to criminal investigation within the medicolegal system. This course will examine the causes, mechanisms, and manners of death encountered in natural, accidental, suicidal, and homicidal circumstances. We will examine conclusions made in death inquiries for

their validity and impact on justice, public safety, and future determinations. Students will learn the issues that confront police investigators, medical examiners, prosecutors and defense attorneys as they analyze selected cases and increase their ability to correctly identify the causes of death. Special attention will be paid to handling of evidence, leading to a proper analysis, a successful investigation, and a satisfactory conclusion.

CJ 365 Police and the Community 3 credits

Suggested prerequisite: CJ 101 Intro to Criminal Justice, or equivalent.

This course offers an in-depth examination and analysis of the relationship and interactions between American law enforcement and the communities they serve. Many aspects of policing are explored at intermediate and advanced levels, to include patrol, community policing, diversity issues, and other current issues and controversies in municipal policing.

CJ 432 Drugs and Crime 3 credits

Prerequisite: none

This course analyzes the historical, political, economic, social, psychological, and cultural factors that influence the use of illicit, misused, or abused substances. The coursework will include a study of the influence these factors have on the social and legal responses to drug use, including legislation, law enforcement, drug courts, and associated policies and procedures.

This course was cross-listed with SOC 432. Credit for only one of these courses will be applied toward graduation.

CJ 498 Criminal Justice Capstone 3 credits

Prerequisites: Completion of Written English Requirement and Information Literacy, and most of the CJ courses required for the major (including CJ 101 Introduction to Criminal Justice, CJ 110 Introduction to Law Enforcement, and CJ 255 Organizational and Administrative Strategies in Criminal Justice). Students must be within 15 credits of degree completion and obtain advisor approval. The Criminal Justice Capstone is intended as the last course in the major. Throughout the term, students will discuss various topics in regards

to the criminal justice system. Students will also research and submit application papers, the topics of which will reflect the integrated components of the criminal justice system as they relate to the program outcomes. This course is designed to allow students the opportunity to demonstrate their understanding, analysis and synthesis of the materials, concepts and theories in the U.S. criminal justice system, as well as their communication and presentation skills.

COMM 125 Public Speaking 3 credits

Prerequisite: none

Did you know that a national survey once found public speaking to be more frightening to the general public than snakes, death, and sharks? A comedian once quipped, "According to most studies, people's number one fear is public speaking. Number two is death." This course assists students with public speaking anxiety as well as speech construction and delivery, which they can use for any professional presentations. In fact, business leaders commonly rank effective communication skills as some of the most sought after skill sets in today's world. Taking a public speaking course will help you develop critical thinking and listening skills as well as enhance your verbal and nonverbal communicative behaviors. Students taking this course will create voiced-over PowerPoint presentations and record video speeches.

COMM 210 Interpersonal Communication 3 credits

Prerequisite: none

Do you feel like you aren't being understood when you talk to your coworkers, family or friends? Have you ever walked away from a conversation and thought "Well, that could have gone better!"? This course introduces students to the skills and theories of interpersonal communication, which are needed to build and maintain successful personal and professional relationships. Students are given opportunities to evaluate the complicated interactions of psychological, social and cultural forces involved in interpersonal exchanges. This course explores personality traits, the perception of self and others, listening, managing conflict, and verbal and non-verbal communication.

COMM 312 New Media, Relationships And You

3 credits

Prerequisite: none

Like it or not, social media, digital communication, and smartphones are rapidly altering how we relate to one another in our personal and professional lives. Do our online actions increasingly shape our offline identities? This class will explore how social forces such as race, gender, and culture affect digital communication, while also exploring related topics of workplace communication, issues of privacy, unconscious bias, and internet celebrities. Lastly, we'll also investigate controversial behaviors like sexting, trolling, transhumanism, and terrorism online. Because having knowledge and practical skills of new media makes students more marketable, the class includes practical assignments with real world application.

COMM 324 Conflict Management

3 credits

Prerequisites: none

How have your conflicts typically played themselves out? Do you sense that there are patterns in your conflicts? Mark Twain said that to a man with a hammer, every problem looks like a nail. When disagreements arise with our fellow employees, our neighbors, our supervisors, or even our family, we tend to use the same approach over and over because that's the only one we know. Conflict is unavoidable but COMM 324 explores the causes, processes, and outcomes of conflict as well as the principles and techniques for improving the handling of conflict.

COMM 345 Innovation and Current Trends in Communication

3 credits

Prerequisite: none

This course examines how contemporary organizations and industries both use and respond to innovative communication practices. To engage with professional communication issues in the digital age, we examine trends dealing with social media, the attention economy, online advertising, contemporary news media, copy-right, and more. The course also tackles some of the challenges and potential pitfalls of contemporary communication.

COMM 347 Innovative Communication and Culture

3 credits

Prerequisite: none

This course will examine the complex relationship between innovation, culture, and communication. How do innovations in communication drive cultural change? How does culture communicate its innovations? Television was a powerful agent of transformation, and we are now seeing how online platforms are changing lives and cultures. In addition, visual images, popular music, and fashion are also forms of innovative communication that students will be exploring. Communication can be a great equalizer within a culture, especially as innovation allows average citizens to utilize new, potentially powerful platforms. This course prepares student to interpret the cultural behaviors and visual messages that constantly surround us at work and in life.

COMM 423 Leadership and Team Building

3 credits

Prerequisite: none

When you look at the leaders around us—be it your employer or the President—you might find yourself wondering exactly why these individuals excel in such positions. In this course, you'll delve deeper into leadership theory and practice successful leadership models. You'll also build teamwork skills as well. Although this course focuses on leaders, it provides anyone with more effective skills to succeed in life. So no matter what your role or position in life or at work, this course asks that you assess yourself honestly and become the best yourself.

CYS 220 Cloud Computing and Virtualization

3 credits

Prerequisite: none

Ahh, the cloud. The bastion that will solve all computer storage problems, or will it? Cloud technology is not a new concept but as businesses upload more information to the cloud one must consider the technical and cybersecurity aspects of using this technology. Cloud storage may provide a solution to a business storage

needs, but at what costs? This class investigates the aspects of cloud technology including the responsibilities of the various parties, the complexity of governing cloud resources, deliver issues, cybersecurity, and uptime performance. Assessing risk in utilizing cloud technologies and the application of the CIA Triad are stressed. Students will complete lab exercises working with cloud technology to replicate the business experience. While not a certification preparation class, this course does cover the CompTIA Cloud Essentials certification body of knowledge.

CYS 245 Introduction to Cybersecurity 1 credit

Prerequisite: none

The course provides students with an introduction to the basic and fundamental concepts of cybersecurity from both a technical and managerial perspective. Students will gain insight on common cyber attacks and the techniques for identifying, detecting and defending against cyber security threats. The course will cover the basics of physical, network and web security as well as standards and laws in cybersecurity. The knowledge gained in this course will provide students with a concrete foundation to further master the concepts of cybersecurity.

To help bring all of this life, you will be introduced to Crasey Fast Custom Furniture, a hypothetical small business who has recently enlisted the services of a consultancy called EX Cyber to help them become more security aware and protect their business and their customers.

CYS 260 Governance Legal and Compliance 3 credits

Prerequisite: none

To minimize liabilities and reduce risks from cybersecurity threats and reduce the losses from legal action, the information security practitioner must understand governance, compliance, and the legal environment and stay informed of emerging laws and regulations. This course will introduce you to the challenges of governance, ethics, legal, and regulatory compliance through the eyes of information security professionals.

We will examine compliance requirements in response to key mandates and laws, including

Sarbanes-Oxley, HIPAA (Health Insurance Portability and Accountability Act), Privacy, Gramm-Leach-Bliley, the Foreign Corrupt Practices Act (FCA), and the Payment Card Industry Data Security Standards (PCI DSS). Lastly, we will examine some of the challenges of compliance and ethics in the practice of Information Security.

CYS 345 Cybersecurity Defense in Depth 3 credits

Prerequisite: Suggested: CYS 245 Introduction to Cybersecurity. The student must have a general understanding of information security principles. The course examines the world of cybersecurity risks and defenses that possess significant threats to governments and businesses. This course will provide knowledge, skills, and techniques to identify and address the many cybersecurity threats facing our world today. This course will provide a framework for current and future cybersecurity threats by first examining the history of cybersecurity. The course will then apply lessons learned in the past to current cybersecurity risks and defenses. Additionally, the course will attempt to predict future cybersecurity concerns and the necessary preparations needed to defend against them. Lastly, this course will examine how IT (Information Technology) security threats are constantly evolving and provide insight into cybersecurity defenses from a business and government perspective using real-world scenarios to demonstrate actual cybersecurity threats and the strategies used to defend against those threats. The course aligns with and will assist students in preparing for two industry certification programs: TestOut Security Pro and CompTIA Security+.

CYS 350 Cybersecurity Defense in Depth for the Nuclear Industry 3 credits

Prerequisite: none

The course examines the world of cybersecurity risks and defenses which poses significant threats to the nuclear industry infrastructure. This course will provide knowledge, skills, and techniques to identify and address the many cybersecurity threats facing the nuclear industry today. This course will provide a framework for current and future cybersecurity threats by

first examining the history of cybersecurity. The course will then apply lessons learned in the past to current cybersecurity risks and defenses. Lastly, the course will attempt to predict future cybersecurity concerns and the necessary preparations needed to defend against them. This course will examine how IT security threats are constantly evolving and provide insight into cybersecurity defenses from a nuclear industry perspective using real-world scenarios to demonstrate actual cybersecurity threats and the strategies used to defend against those threats.

CYS 400 Reverse Engineering 3 credits

Prerequisites: ELEC 202 Microprocessors, IT 240 Introduction to C++ Programming, IT 361 Computer Operations and Operating Systems, IT 406 Computer Forensics, IT 380 Overview of Information Security.

This course provides students with a foundation in reverse engineering within the context of cybersecurity, penetration testing, malware analysis, and its applicability to cybersecurity attack strategies and countermeasures. Moreover, the course prepares students to use various penetration testing tools to analyze networks for vulnerabilities, and reverse engineering tools to perform malware analysis and decompilation of code. Intellectual property protections such as digital rights management and communication protocols utilizing static and dynamic techniques are also discussed. The course aligns with and will assist students in preparing for two industry certification programs: TestOut Ethical Hacker Pro and EC Council Certified Ethical Hacker (CEH).

CYS 401 Organizational Information Security 3 credits

Prerequisite: none

The course will provide learners with knowledge in the broad outlines of implementing information security initiatives in organizations. The course will cover the technical concepts as well as the managerial, operational and policy

dimensions of information security. The learners will also examine the personnel and organizational skills required to manage information security initiatives in organization consisting of staffing, training, certifications and ethical responsibilities.

CYS 403 Network and Application Security 3 credits

Prerequisites: IT 250 Business Data Communications (or related course work), and IT 380 Overview of Computer Security (or related course work).

This course covers the main concepts and models of network and application security, which include security models and threats, access control, secure routing and switching, cryptography and secure communication, and how to mitigate security threats. The course aligns with and will assist students in preparing for two industry certification programs: TestOut Routing and Switching Pro and Cisco CCNA.

CYS 426 Cyber Attacks and Defenses 3 credits

Prerequisite: IT 380 Overview of Computer Security

This course introduces ethics, laws, metrics, methodologies, project management, tools, techniques, purposes, and practices of penetration testing aka ethical hacking as a proactive measure to improving the overall security posture of a system or network. The students will learn to assess target systems and networks for vulnerabilities and exploits, detect security threats, and recommend and implement defensive, corrective, and preventative measures based on penetration test results.

CYS 450 Security Focused Risk Management 3 credits

Prerequisite: IT 380 Overview of Computer Security, or students should already be familiar with the concepts of information, security risks to information, and the challenges of protecting information.

This course will focus on providing you with

insights, guidance and best practices in security focused risk management. Students will review the fundamental principles of security focused risk management. Students will utilize a disciplined and standard approach to risk management including risk identification, risk assessment, risk prioritization, and risk prevention or mitigation. Students will learn to identify classes of possible vulnerabilities, threats, attack vectors, consequences and mitigation strategies.

CYS 455 Business Continuity 3 credits

Prerequisite: IT 250 Business Data Communications, or related course/work experience.

This course focuses on two important aspects of information security, data integrity, and data availability. Malicious attacks, natural disasters, and unplanned events can threaten the availability and integrity of an organization's data assets. This course emphasizes the development of business continuity and disaster recovery plans that result in action plans to mitigate the effect of a breach in security or the occurrence of a disaster.

CYS 456 Securing Mobile and Cloud Computing Environments 3 credits

Prerequisite: IT 250 Business Data Communications or equivalent networking experience.

This course covers the secure design and management of ubiquitous computing environments formed by the convergence of fixed and mobile devices, shared services, cloud computing, and other Internet-based computing methods. Students learn best practices and challenges associated with managing these heterogeneous environments and insuring their ability to communicate in a secure manner.

CYS 465 Cybersecurity Investigation and Case Studies For The Nuclear Industry 3 credits

Prerequisite: All other courses in the nuclear cybersecurity concentration.

This course provides a comprehensive analysis of the methods, tools, and best practices for responding to cyber security incidents and product vulnerabilities in the nuclear industry.

It covers building a computer security incident response team (CSIRT) and a product security team (PST) for security vulnerability handling. It includes a discussion of the best practices on conducting a cybersecurity investigation, which minimizes potential damage while ensuring proper handling of electronic data collection. Students review legal issues from a variety of national perspectives and consider the practical aspects of coordination with other organizations.

CYS 470 Secure Software Development 3 credits

Prerequisite: IT 380 Overview of Computer Security and IT 210 Object Oriented Programming, or IT 240 Introduction to Programming or prior knowledge of an Object Oriented Design programming language.

In today's environment, perimeter and infrastructure security is not enough to mitigate security attacks against data and information stored, transmitted, and processed by computer systems. In order to design and build secure IT systems, all elements of the system need to be secure. Unfortunately, more and more security vulnerabilities are exploited due to insecure software systems. This course gives insight, guidance, and best practices in the design, development, and testing of secure software systems.

CYS 475 Large Scale Cybercrime and Terrorism 3 credits

Prerequisite: none

This course will examine cybercrime and terrorism in global context and focus on large scale incidents that effect international security. The foundation of the course will emphasize the evolution of cybercrime and terrorism within the context of globalization and the increasing complexity of cybercrime and international, nation-less decentralized terror networks. The course will discuss the relationship of cybercrime and uses of information technology that cultivated and sustained current international terror networks. The course will also discuss emerging trends and potential threats such as

Electromagnetic Pulse Attacks (EMPs) and methods (and limitations) to confront large scale cybercrime and terrorism such as advanced data mining techniques by the Intelligence Community and use of Fusion Centers.

CYS 496 Cybersecurity Capstone 3 credits

Prerequisites: Students must have completed all the core requirements of the degree.

This capstone course will examine computer security technologies and principles, including access control, authentication, external attacks, software security, security assessment and testing, and legal issues in cybersecurity. This course includes a final research project that will expose students to real-life scenarios in cybersecurity.

ECO 260 Introduction to Microeconomics 3 credits

Prerequisite: none

Should a manufacturer produce automobiles or ventilators? Should a local government intervene when sugar cane farmers in an area burn stalks to expose cane and the smoke results in a costly rise in asthma treatment among children in a state-run Medicaid program? In this course you will sharpen your ability to understand choices you or others face in a range of personal, professional and public contexts as you are introduced to the framework economists use to compare alternatives faced by individuals, businesses and governments. Governments uniquely make rules. Governments also impose taxes offer incentives and make choices to redistribute wealth, protect, regulate hiring and conditions of work, internet service and air quality. It may surprise you to learn how microeconomic tools introduced in this course can be applied in such diverse contexts to measure and compare relative costs and benefits.

ECO 262 Introduction to Macroeconomics 3 credits

Prerequisite: none

Do you hear a lot about interest rates? How about negative interest rates? Macroeconomists consider interest rates and other economic variables because interest rates affect activities like hiring and firing of workers (employment) across a whole economy and even worldwide. You might care about interest rates because these affect borrowing costs. Interest rates also affect home and rental pricing and changes in pay on a yearly basis. In this course you will learn how economists measure and forecast economic factors like those mentioned here to assist state, local and federal governments in maintaining services to citizens, price stability and the broadest level of employment possible. You will also learn how powerfully macroeconomic factors affect you directly.

ECON 360 International Economics 3 credits

Prerequisite: none

This course builds on introductory micro and macroeconomics to analyze the world economy. Students investigate and apply economic theory to subjects, including: patterns of trade, trade agreements/restrictions, the flow of labor and capital, the international monetary system and exchange-rate issues, and the roles of international organizations such as the World Trade Organization and the International Monetary Fund. Students examine how the international economic system operates and the challenges it faces.

EGR 210 Introduction to Engineering Analysis 3 credits

Prerequisites: PHYS 203 Physics II and PHYS 204 Physics II laboratory

The goal of this course is to introduce a general problem-solving approach for the beginning engineering student. Introduction to Engineering Analysis focuses on how to solve (any) kind of engineering analytical problem in a logical and systematic way. The course helps to prepare the students for such analytically oriented courses as statics, strength of materials, electrical circuits, fluid mechanics, thermodynamics, renewable energy systems, etc.

EGR 280 Introduction to 3-D Modeling 3 credits*Prerequisite: none*

As an introductory course in engineering graphics, this course begins with creating properly dimensioned 2-D sketches and progresses towards creating fully dimensioned 3-D parts. Students complete a series of projects that practice their ability to read drawings, visualize the dimensioned object, and create 3-D models. The focus of this course is drawing and modifications of 2-D sketch tools such as line, circle, arcs, rectangle, offset, fillet, chamfer, trim, mirror, move, rotate, copy, scale, stretch, and other commands. In addition, basic features commands including extrude, extrude cut, loft, revolve, draft and hole wizard will be introduced. I will include topics in designing both electrical and mechanical components.

ELEC 152 Circuit Theory I 4 credits

Prerequisites: PHYS 203, PHYS 204, MAT 220
Required Knowledge: In order to comprehend the course materials, the students need to have the following knowledge: Algebra, trigonometry, and basics of differential and integral calculus; physics I and physics II; college level chemistry with lab; basic computer literacy for technical problem solving, including installing software, naming files, transferring files, and navigating the Internet.

This course is an introduction to the basic principles of direct current (DC) electricity. Topics covered include: Current, voltage, resistance (both linear and non-linear), Ohm's Law, work and power, series and parallel resistance, resistance networks, Kirchhoff's Law, network theorems (Norton's, Thevenin's, superposition, and Millman's), mesh and nodal analysis, inductance, capacitance, and time constants. This course contains a lab component.

ELEC 153 Circuit Theory II 4 credits

Prerequisite: ELEC 152 Circuit Theory I, and MAT 221 Calculus II, or equivalent. Required Knowledge: In order to comprehend the course materials, the students need to have the following knowledge: Algebra, trigonometry, basics of differential and integral calculus and differential equations; physics I and physics II; DC circuit analysis; basic computer literacy for technical problem solving, including installing software, naming files, transferring files, and navigating the Internet.

This course is an introduction to the principles and applications of alternating current (AC) circuits. Topics covered include capacitor and inductor transient response, the sine wave, reactance, complex algebra and phasors, impedance, Kirchhoff's Law and network theorems (Norton's, Thevenin's, and superposition) in AC circuits, power in AC circuits, series and parallel impedances, impedance networks, filters, resonance, Bode plots, and polyphase systems. The topic of engineering and technology standards is also discussed. This course contains a lab component.

ELEC 160 Electronics I 4 credits

Prerequisite: ELEC 152 Circuit Theory I, and ELEC 153 Circuit Theory II, or equivalent. Required Knowledge: In order to comprehend the course materials, the students need to have the following knowledge: Algebra, trigonometry, calculus I (differentiation), calculus II (integration), differential equations, physics I, and physics II; DC and AC circuit analysis; basic computer literacy for technical problem solving, including installing software, naming files, transferring files, and navigating the Internet.

This course is an introduction to the study of semiconductor devices such as p-n junction diodes, bipolar junction transistors (BJT), field-effect transistors (FETs,) and metal-oxide-semiconductor field-effect transistors (MOSFETs), which enable students to perform analysis of direct current (DC) transistor biasing; small-signal and multi-stage amplifiers using BJTs, FETs, and MOSFETs; and frequency

response of single and multi-stage transistor amplifiers. This course contains a lab component.

ELEC 161 Electronics II 4 credits

Prerequisite: ELEC 152 Circuit Theory I, ELEC 153 Circuit Theory II, and ELEC 160 Electronics I, or equivalent.

Required Knowledge: In order to comprehend the course materials, the students need to have the following knowledge: algebra, trigonometry, calculus I (differentiation), calculus II (integration), differential equations, physics I, and physics II; DC and AC circuit analysis; diode and transistor based electronic circuits and amplifiers; basic computer literacy for technical problem solving, including installing software, naming files, transferring files, and navigating the Internet.

This course overviews the analysis and application of advanced electronic circuits. Topics include differential amplifiers, stage gain in decibels, input and output impedances, linear integrated circuit (IC) operational amplifiers, frequency response, Bode plots, active filters, digital-to-analog and analog-to-digital circuits, oscillators, and high frequency amplifiers. The course emphasizes troubleshooting of test circuits and analysis based on computer simulation. This course contains a lab component.

ELEC 201 Digital Electronics 4 credits

Prerequisite: ELEC 161 Electronics II, or equivalent.

Required Knowledge: In order to comprehend the course materials, the students need to have the following knowledge: Algebra, trigonometry, basics of differential and integral calculus and differential equations; physics I and physics II; DC and AC circuit analysis, electronics, feedback and operational amplifiers; electronic oscillators; basic computer literacy for technical problem solving, including installing software, naming files, transferring files, and navigating the Internet.

This course presents the principles and applications of digital circuits. Topics include number systems, binary arithmetic, logic gates and Boolean algebra, logic families, combinational and synchronous logic circuit design, logic minimization techniques (Karnaugh maps,

Quine-McCluskey), counters, shift registers, encoders and decoders, multiplexors and demultiplexors, and interfacing. This course contains a lab component.

ELEC 202 Microprocessors 4 credits

Prerequisite: ELEC 201 Digital Electronics, and IT 210 Object Oriented Programming, or equivalent.

Required Knowledge: In order to comprehend the course materials, the students need to have the following knowledge: Algebra, trigonometry, basics of differential and integral calculus and differential equations; physics I and physics II; DC and AC circuit analysis, electronics, feedback and operational amplifiers, electronic oscillators, and digital electronic circuit design; basic computer programming for technical problem solving, including installing software, naming files, transferring files, and navigating the Internet.

This course presents the principles and applications of microprocessors, including hardware and software, interfacing, assembly language programming, and microprocessor-based systems. It presents 8-, 16-, and 32-bit microprocessor technology and features. This course contains a lab component.

ELEC 210 Programmable Logic Controllers 3 credits

Prerequisite: ELEC 202 Microprocessors, or equivalent.

Required Knowledge: In order to comprehend the course materials, the students need to have the following knowledge: Algebra, trigonometry, basics of differential and integral calculus and differential equations; physics I and physics II; DC and AC circuit analysis, electronics, feedback and operational amplifiers, electronic oscillators, digital electronic circuit design, and microprocessor assembly level programming; basic computer programming for technical problem solving, including installing software, naming files, transferring files, and navigating the Internet.

This course introduces students to programmable logic controllers (PLCs) and their applications. Topics include PLC architecture, relay logic and ladder logic programming, PLC

timers and counters, troubleshooting, process control and networking, and industrial applications. This course contains a lab component.

ELEC 306 Advanced Digital Design 3 credits

Prerequisite: ELEC 202 Microprocessors, or equivalent.

This course presents systematic design methods for synthesizing sequential digital circuits using hardware description language (HDL), while details of its associated languages too are brought to familiar ground. Specification, modeling, and design principles of sequential systems, as well as design implementation and testing using programmable logic devices and Computer Aided Design (CAD) tools are studied. The course includes laboratory experiments and a group project.

ELEC 307 Microcontrollers 3 credits

Prerequisite: ELEC 202 Microprocessors or equivalent.

Required Knowledge: In order to comprehend the course materials, the students need to have the following knowledge: Algebra, trigonometry, basics of differential and integral calculus and differential equations; physics I and physics II; DC and AC circuit analysis, electronics, feedback and operational amplifiers, electronic oscillators, advanced digital logic circuit design, and microprocessor assembly level programming; basic computer programming for technical problem solving, including installing software, naming files, transferring files, and navigating the Internet, and project management techniques.

This course builds on the student's background from first courses in logic design and microprocessors. This course discusses the architecture used in the design of PIC microcontroller based systems, followed by assembly language programming, interfacing, and communications. Interrupts, timers, data converters, and embedded systems design are also covered. The course includes laboratory experiments and a group project.

ELEC 308 Nano-Science and Nanotechnology in Electrical Engineering 3 credits

Prerequisites: ELEC 161 Electronics II, or ELEC 162 Analog Electronics, or equivalent.

Nanotechnology is rooted in electrical engineering and electronics technologies. In addition, production of advanced engineering materials relies on nanotechnology processes. In this first course of the nanotechnology concentration, nanotechnology related to electrical engineering technology, electronic materials, and nanomaterials will be introduced. You will be introduced to the foundations of nanoscience and nanotechnology with emphasis on understanding the nano-scale properties of materials and living systems, and then analyzing their engineered products and processes. You will learn about the need and functioning of clean room facilities that are essential in nanotechnology enterprises. Applying the methods of quantum mechanics, you will analyze the nano-electronics, sensors, and nano-materials technology processes and products as well as nanotechnology in medicine, and gain deeper understanding of nanoscience and nanotechnology. You will learn about safety and safe working procedures in the domain of nanotechnology that practicing scientists and engineers must adhere to. Lastly, by writing a research paper and presenting it, you will learn about applications of nanotechnology in the domains of nano-electronics, nano-materials, and nano-medicine.

ELEC 311 Introduction to Microchip Fabrication 3 credits

Prerequisite: ELEC 308 Nano-Science and Nanotechnology in Electrical Engineering

Required Knowledge: To comprehend the course materials, students need to have knowledge of the following subjects: Algebra, trigonometry, calculus I (differentiation), calculus II (integration), differential equations, physics I and physics II; college level chemistry with lab; DC and AC circuit analysis; analog electronics; introduction to nanotechnology (ELEC 305); and basic computer

literacy for technical problem solving, including installing software, naming files, transferring files, and navigating the Internet.

Complementary metal oxide semiconductor (CMOS) transistors fabricated on silicon (Si) are the fundamental building blocks of integrated circuits (ICs) that power cellphones and tablets, desktop computers, or sensors used in a variety of applications from medicine to automobiles. This course outlines the fabrication of these transistors and ICs. It describes how such devices and circuits, including their logic and memory components, are made, starting from melting sand to the growth of pure Si ingots and their slicing into Si wafers, fabrication of the ICs, and then all the way to packaging the finished microchips. You will learn about the scaling of these devices to nano dimensions, which has enabled powerful hand-held computers that combine many functions such as computing, radio, audio, video, and automation. You will learn about the safe clean-room working procedures of the chip fabrication plants that scientists, engineers, and technicians should adhere to. Lastly, successful completion of this course involves hands-on as well as simulation-based lab assignments, and writing and presenting a research paper. This course will help prepare you for seeking nano-technology-related jobs.

ELEC 321 Control Systems 3 credits

Prerequisite: ELEC 202 Microprocessors, or equivalent.

Required Knowledge: In order to comprehend the course materials, the students need to have the following knowledge: Algebra, trigonometry, basics of differential and integral calculus and differential equations; DC and AC circuit analysis, electronics, feedback and operational amplifiers, electronic oscillators, and digital electronic circuit design and microprocessor fundamentals; basic computer programming for technical problem solving, including installing software, naming files, transferring files, and navigating the Internet.

This is an introductory course on continuous linear control systems covering analysis, design, and practical applications. Modeling

first and second-order dynamic physical systems with feedback control, transient response and steady-state analyses, Routh-Hurwitz stability criteria, roles of feedback in controlling steady-state errors, frequency response design methods (Bode, Nyquist), etc. are covered. The course emphasizes the application of established methodology with the aid of examples, calculators, and computer programs such as MATLAB.

ELEC 331 Digital and Analog Communications 3 credits

Prerequisite: ELEC 201 Digital Electronics, or equivalent.

Required Knowledge: In order to comprehend the course materials, the students need to have the following knowledge: Algebra, trigonometry, basics of differential and integral calculus and differential equations; physics I and physics II; DC and AC circuit analysis, electronics, feedback and operational amplifiers, electronic oscillators, and digital electronic circuit design; basic computer literacy for technical problem solving, including installing software, naming files, transferring files, and navigating the Internet.

This is a technology focused course covering the principles and applications of analog and digital communication circuits. Analysis of amplitude, frequency, and phase modulation and demodulation, transmitters and receivers, digital communication techniques, coding and multiplexing, network communications and protocols, transmission lines and media, wave propagation and television, optical fibers, wired and wireless communications, communication test equipment and troubleshooting, and communication standards are covered.

ELEC 345 Electric Machines 3 credits

Prerequisite: ELEC 201 Digital Electronics, or equivalent.

Required Knowledge: In order to comprehend the course materials, the students need to have the following knowledge: Algebra, trigonometry, basics of differential and integral calculus and differential equations; physics I and physics II; DC and AC circuit analysis, electronics, feedback and operational amplifiers, electronic oscillators, and

digital electronic circuit design; basic computer literacy for technical problem solving, including installing software, naming files, transferring files, and navigating the Internet.

This course covers the principles and applications of direct current (DC) motors and generators, ideal transformers and three-phase transformers, three-phase induction machines, equivalent circuit of the induction motor, synchronous generators and motors, and motor speed control.

ELEC 350 Power Electronics 3 credits

Prerequisite: ELEC 201 Digital Electronics, IT 390 Project Management, or equivalent.

Required Knowledge: In order to comprehend the course materials, the students need to have the following knowledge: Algebra, trigonometry, basics of differential and integral calculus and differential equations; physics I and physics II; DC and AC circuit analysis, electronics, feedback and operational amplifiers, electronic oscillators, and digital electronic circuit design; basic computer literacy for technical problem solving, including installing software, naming files, transferring files, and navigating the Internet.

In this course you will learn about various circuit techniques used in power electronics. Topics include: Characteristics of power transistors and diodes, switching-mode DC-DC converters, including buck and boost converters and regulation of DC-DC converters by PWM, rectification using diodes, power factor correction, switch-mode DC power supplies, DC-AC inverters, and applications of power electronics in motor drives, UPS, and power systems.

ELEC 360 Generation and Transmission of Electric Power 3 credits

Prerequisite: ELEC 350 Power Electronics, or equivalent.

Required Knowledge: In order to comprehend the course materials, the students need to have the following knowledge: Algebra, trigonometry, basics of differential and integral calculus and differential equations; physics I and physics II; DC and AC circuit analysis, electronics, feedback

and operational amplifiers, electronic oscillators, digital electronic circuit design, and power electronics circuits analysis; basic computer literacy for technical problem solving, including installing software, naming files, transferring files, and navigating the Internet.

This course includes comparing the technologies of power generation from hydro, thermal, nuclear, and wind energy sources; introducing transmission line theory-based analysis of power distribution line and its equivalent circuits; applying components in power distribution systems including substations, protection, and low voltage distribution; and calculating the cost of electricity. The course also includes an introduction to direct current transmission and optimal power-flow analysis, as well as an assessment of solid-state controllers for power flow and harmonics. Finally, the course includes a software-based project wherein students have the opportunity to incorporate project management techniques.

ELEC 370 Instrumentation and Data Acquisition 3 credits

Prerequisites: ELEC 201 Digital Electronics, and IT 210 Object Oriented Programming, or equivalent.

Required Knowledge: In order to comprehend the course materials, the students need to have the following knowledge: Algebra, trigonometry, basics of differential and integral calculus and differential equations; physics I and physics II; DC and AC circuit analysis, electronics, feedback and operational amplifiers, electronic oscillators, and digital electronic circuit design; basic computer programming for technical problem solving, including installing software, naming files, transferring files, and navigating the Internet.

This course provides an introduction to virtual instrumentation and data acquisition. Topics covered include virtual instruments, sub virtual instruments, editing and debugging, structures, arrays and clusters, graphs and charts, data acquisition, and analysis. Power electronics design and engineering standards are also dealt with. This course contains a lab component.

ELEC 403 BSEET Independent Study I 3 credits

Prerequisite: Electrical Engineering Technology faculty approval.

Students have the opportunity to work one-on-one with an Excelsior University faculty member to set learning goals, choose the means by which to reach those goals, and determine the best way to assess learning. Independent Study Contracts (ISCs) can be on almost any topic within Electrical Engineering Technology. All learning contracts must be submitted for departmental approval, and students must inform their academic advisor of their intent to pursue an ISC well in advance of registration.

ELEC 404 BSEET Independent Study II 3 credits

Prerequisite: Electrical Engineering Technology faculty approval.

Students have the opportunity to work one-on-one with an Excelsior University faculty member to set learning goals, choose the means by which to reach those goals, and determine the best way to assess learning. Independent Study Contracts (ISCs) can be on almost any topic within Electrical Engineering Technology. All learning contracts must be submitted for departmental approval, and students must inform their academic advisor of their intent to pursue an ISC well in advance of registration.

ELEC 495 Integrated Technology Assessment BEL 3 credits

Prerequisite: In order to comprehend the course materials, the students need to have the following knowledge: This is a required course in the B.S. Electrical Engineering Technology program; it is open only to B.S. Electrical Engineering Technology students who have completed all other technology core requirements and most, if not all, concentration course and general education requirements. This is the required capstone course for the B.S. Electrical Engineering Technology program. It requires reflections on the student's past academic and professional experiences and using the information gained from this reflective exercise to develop evidence-based learning statements related to the Electrical Engineering Technology

degree outcomes, resulting in the integrated technology assessment (ITA) portfolio.

The course features an online examination designed to assess the basic knowledge and understanding achieved in electrical engineering technology. This examination is administered in Module 2 through Module 7.

Finally, the student is required to undertake a hardware based capstone project spread through all the course modules, and demonstrate integrated learning experience and the outcomes of this degree program.

ENG 101 English Composition 3 credits

Prerequisite: none

This class provides students with foundational knowledge and skills to prepare them for academic and professional writing. By analyzing the work of other writers, students will learn to approach writing from a rhetorical and genre-based perspective. They will practice sentence- and paragraph-level writing, learning to revise and correct their own work. They will also work on finding, documenting, and effectively integrating sources into a research-based essay. Both traditional (textual) and multimodal (textual and visual) composition will be addressed.

ENG 101A Advanced Composition 3 credits

Prerequisite: none

This class provides students with foundational knowledge and skills to prepare them for academic and professional writing. By analyzing the work of other writers, students will learn to approach writing from a rhetorical and genre-based perspective. They will practice sentence- and paragraph-level writing, learning to revise and correct their own work. They will also work on finding, documenting, and effectively integrating sources into a research-based essay. Both traditional (textual) and multimodal (textual and visual) composition will be addressed.

ENG 101ELL College Composition for English Language Learners 3 credits

This section of college composition is tailored to the special needs of English language learners.

It will cover sentence-level writing (grammar, mechanics, and style), paragraph writing, and writing in a variety of essay formats, culminating in a persuasive research-based essay. Students will practice important skills such as developing a research question, conducting library research, developing a thesis, and appropriately integrating sources.

ENG 102 Composition II 3 credits

Prerequisite(s): ENG 101 Composition I, ENG 101A Composition I, or equivalent (required).

This course is designed to help you improve your academic and workplace writing skills. The course emphasizes research-based, argument-driven writing. You will complete a research paper, a workplace proposal, and an oral presentation related to your academic discipline or profession. You will practice finding, evaluating, and citing sources; paraphrasing and summarizing; outlining and paragraphing; and revising and proofreading.

ENG 102A Advanced Composition II 3 credits

Prerequisite: ENG 101 Composition I, ENG 101A Composition I, or equivalent (required).

This course is designed to help you improve your academic and workplace writing skills. The course emphasizes research-based, argument-driven writing. You will complete a research paper, a workplace proposal, and an oral presentation related to your academic discipline or profession. You will practice finding, evaluating, and citing sources; paraphrasing and summarizing; outlining and paragraphing; and revising and proofreading.

ENG 202 Business Writing 3 credits

Prerequisite: ENG 101 English Composition, or equivalent.

Business Writing assists students in becoming confident, efficient business communicators. Students learn and apply strategies for designing and delivering effective workplace messages, both written and oral, that address audiences, purposes, and common business situations and problems. Using scenario- and case-based assignments, students analyze audience needs, define outcomes

for their communication, and plan strategies for successfully achieving those outcomes. The course covers digital and routine communication forms, including reports, proposals, and presentations. Business Writing equips students with a range of tools to navigate today's business world successfully.

ENG 202 duplicates BUS 210 Writing in the Workplace. Credit in only one of these courses will be applied toward graduation.

ENG 312 Scientific and Technical Writing 3 credits

Prerequisite: ENG 101 English Composition, or equivalent.

Scientific and Technical Writing focuses on the development and application of rhetorical strategies used in writing about science and technology. You will work on communication projects in your chosen scientific/technical communication fields; analyze writing situations and develop strategies for addressing audiences, organizing information, using appropriate style, and presenting the work using effective document design for both technical and non-technical readers; and produce writing designed to make even "hard" science and technology accessible. Let's get started!

ENG 314 Careers in Professional Writing 3 credits

Prerequisite: ENG 101 English Composition, or equivalent suggested.

Careers in Professional Writing surveys career paths and current trends and developments in professional writing. Students explore the markets and professional associations for writers in technical, scientific, and medical arenas, as well as analyze and compose various professional documents that demonstrate the ability to apply composing, revision, and collaborative strategies necessary for professional writing success. A key component is the assessment of students' current writing skills and development of an individualized plan for acquiring additional skills that effective professional writers need.

ENG 315 Zombies in Literature and Popular Culture

3 credits

Prerequisite: none

Why has popularity in zombies grown so rapidly in recent years? What makes the undead marketable? What accounts for their prominence in modern literature, film, and pop culture? From horror to humor, the zombie has infiltrated our society for decades (even centuries), enticing us to ponder our collective fascination with the undead and our own humanity. In this course, students will examine the historical, literary, social, psychological, and the pop cultural origins and impact of zombies. Consider how social, gender, or even cultural roles change in a zombie-infested world. Read *The Zombie Survival Guide* to discuss leadership strategies for surviving in a world populated by zombies. Watch films like *Night of the Living Dead* and television shows like *The Walking Dead*.

Throughout this course, there will be subject matter and material covered in the readings, films, and discussions of a violent nature. Please use your own discretion to gauge whether or not this course is right for you.

ENG 316 Writing in the Global Marketplace

3 credits

Prerequisite: ENG 101 English Composition, or equivalent.

Writing for the Global Marketplace emphasizes the importance of intercultural competence and sensitivity to professional communication, both in print and online, by examining several Web-based, print-based, and presentation genres for common business functions from an intercultural perspective. Students study how audience, purpose, persona, and context in certain cultures should inform decisions regarding content selection, source usage, document structure, tone, and other conventions in professional communication. Includes analysis of basic models of culture as applied in professional business settings world-wide, as well as how American business communication norms differ from and must be adapted for other cultures.

GENE 201 Introduction to Genetic Genealogy

3 credits

Prerequisite: none

In this course, you will learn how to interpret and analyze DNA test results provided by testing companies to answer genealogical questions. You will observe how DNA is inherited and used by genealogists to examine relationships, ancestry, and descendants, including genetic cousin matches. Using the four main categories of DNA (Y-DNA, mtDNA, atDNA, and X-DNA), you will identify, recreate, and study genealogical relationships. By applying test results to third-party tools, you will deeply analyze data to maximize testing results. Additionally, you will examine the ethical issues associated with DNA test results and learn how DNA can play a vital role when documentation from other sources is not available or is inconclusive. Finally, you will apply the best practices described in this course to design a strategic DNA testing plan to solve a specific genealogical problem for a client.

GEOL 108 Earth Science and Society 3 credits

Prerequisite: none

The three threads of this course are Earth, as represented by the four natural spheres—atmosphere, biosphere, hydrosphere, and lithosphere; Society, as represented through the effects of Earth processes on humans and society and the effects of the human existence on the physical nature of the Earth; and Technology, which has greatly expanded in geoscience research. These threads are tied together by our semester-long project that enables you to relate your studies directly to your community. Everyone will select a study area—your hometown, your current location, or another area with which you are familiar—and conduct a mini-Natural Resources Inventory of the area as related to each of the four natural spheres assessing the quality of the air and water, the land cover, and geologic hazards.

This course requires the use of Microsoft Excel.

This course replaces GEOL 107. Credit for only one of these courses will be applied toward graduation.

GEOL 114 Introduction to Oceanography 3 credits*Suggested prerequisite: Basic Algebra*

This course introduces oceanography as an integrated science that utilizes many basic sciences to understand the ocean that dominates the surface of our planet.

During the course we'll explore the global ocean/atmosphere system as well as waves, tides, and currents of the world ocean with a focus on understanding its impact on our lives. Our studies will span the globe to give you an up-close view of some of the most significant challenges facing our marine ecosystem including climate change, pollution, and other human activities. We'll also explore the adaptations of marine animals and other inhabitants of the ocean in the face of such challenges.

This course replaces GEOL 115. Credit for only one of these courses will be applied toward graduation.

HEM 125 Introduction to Homeland Security 3 credits*Prerequisite: none*

This course provides an overview of homeland security, its history, and evolution since the September 11th terrorist attacks in New York City. Also covered is the need to balance terrorism threats, natural disasters, and other hazards. The role of communications, intelligence, counterterrorism, border security, transportation safety, cybersecurity, and critical infrastructure protection. Preparation, mitigation, and recovery using the all-hazards approach will be studied. As well as the hierarchical organizational of the Department of Homeland Security and the various programs undertaken by government agencies, community organizations, and the private sector in support of homeland security.

This course was cross-listed with CJ 125. Credit for only one of these courses will be applied toward graduation.

HEM 350 International Terrorism 3 credits*Suggested prerequisite: CJ 101 Intro to Criminal Justice, or equivalent.*

This course provides an examination of the historical, political, social, religious contexts, and modern manifestations of international

terrorism and terrorist organizations. Terrorism originating in the Middle East, Europe, Asia, and Latin American will be included.

This course was cross-listed with CJ 350. Credit for only one of these courses will be applied toward graduation.

HEM 352 Domestic Terrorism 3 credits*Suggested prerequisite: CJ 125 Introduction to Homeland Security, or equivalent.*

This course introduces students to terrorism originating in the United States. Homegrown terrorism and its unique characteristics will be studied, as well as the foundations of domestic terrorism, with an examination of its history and philosophies. Topics include current and active domestic terrorist groups, their organizational structure, philosophies, and networks. Students will study the causes and dynamics of different types of domestic terrorism, along with the strategies used combating this phenomenon.

This course was cross-listed with CJ 352. Credit for only one of these courses will be applied toward graduation.

HEM 356 Emergency Management 3 credits*Suggested prerequisite: HEM 125 Introduction to Homeland Security, or equivalent.*

This course covers the organization and management of the various aspects of emergencies due to natural disasters, man-made disasters, terrorism, or war. Reactive procedures covered will include response, mitigation and recovery efforts. Proactive measures will include the preparedness and training of both government entities and private citizens.

This course was cross-listed with CJ 356. Credit for only one of these courses will be applied toward graduation.

HEM 450 Counterterrorism 3 credits*Suggested prerequisite: HEM 350 International Terrorism, HEM 352 Domestic Terrorism, HEM 354 Managing Homeland Security, or HEM 355 Analyzing Intelligence, Terrorism and National Security.*

This course introduces the principles and approaches to countering terrorism in the United States and abroad. Students will examine the question of jurisdiction and activities associated

with counterterrorism; whether they should be primarily law enforcement-oriented or military-oriented. The legal and ethical concerns and the restrictive rules of collecting intelligence by military and other non-law enforcement organizations are analyzed.

This course was cross-listed with CJ 450. Credit for only one of these courses will be applied toward graduation.

HEM 460 Infrastructure Security and Policy

3 credits

Suggested prerequisite: HEM 125 Introduction to Homeland Security, or equivalent.

This course deals with the various methods and techniques that have been developed to protect society's critical infrastructure, as well as their influence on policy and decision-making. It covers the historical background of critical infrastructure and its importance; exploring current trends in infrastructure sensitivity and the impact on a networked environment. The course embraces an all-hazards approach to homeland security, critical infrastructure protection and assurance, and emergency management. The course will examine the National Response Framework (NRF) and how it can be applied locally; public-private partnerships; information sharing; the need for resiliency planning to respond to changes within the threat environment; risk assessments; and new, related regulations.

This course was cross-listed with CJ 460. Credit for only one of these courses will be applied toward graduation.

HEM 498 Homeland Security and Emergency Management Capstone

3 credits

Prerequisite: Students must have completed all other requirements of the degree, completed the written English requirement, and completed the Information Literacy requirements. Students must be within 12 credits of degree completion.

The Homeland Security and Emergency Management capstone is intended as the last course in the major. Throughout the term, students will discuss various topics in regards to the

homeland security enterprise and emergency management; including preparation, mitigation and recovery from man made, natural and accidental disasters. Students will also research and submit application papers, the topics of which will reflect the integrated components of homeland security and emergency management. This course is designed to allow students the opportunity to demonstrate their abilities to understand, analyze, synthesize and present the content, concepts, policies and theories in the field.

HIS 101 United States History I

3 credits

Prerequisite: none

This course is an introductory survey of US history from pre-European contact through the end of Reconstruction in 1877. Students will examine the major political, social, and economic trends in the American colonies and new nation, with a particular focus on diversity and cross-cultural encounters. Students will learn to think like a historian by contextualizing the past through a research project about a major trial in early American history, applying historical information to our contemporary world, and reading and interpreting primary sources.

This course uses a lower-cost interactive webtext instead of a traditional textbook.

HIS 102 United States History II

3 credits

Prerequisite: none

This course is an introductory survey of US history from the end of Reconstruction in 1877 through the recent past. The course examines the evolution of the United States from a nation torn apart by war to a global superpower. Students will study major political, social, and economic trends in the modern United States, with a particular focus on diversity and cross-cultural encounters. Students will engage in primary and secondary source analysis and learn to communicate historical arguments using a variety of tools.

This course uses a lower-cost interactive webtext instead of a traditional textbook.

HIS 120 World History I 3 credits*Prerequisite: none*

This course examines the rise of the major world civilizations in Asia, Africa, Europe, and the Americas from their earliest beginnings through the fifteenth century. It focuses on economic, social, political, and cultural factors that contributed to their birth and sustained their growth and development. Students will explore the political institutions, social systems, religious systems, and cultures of these civilizations. They will also look at the contributions of individuals to their communities. In particular, the course highlights the interconnectedness of many societies as they passed ideas, technologies, people, and goods back and forth to each other.

HIS 290 Pirates on the High Seas 3 credits*Prerequisite: none*

Buccaneers. Privateers. Marauders. Sea Dogs. Uncover the true history of pirates on the high seas in the 16th through the 18th centuries, with a special focus on the Golden Age of Piracy in the Atlantic from 1650-1739. This course compares the cultural and social myths about pirates with reality, including the intersection of piracy with the global economy, imperial system, and social and political history of the colonial era. It also compares the Golden Age of Piracy to other eras, including piracy in our current world. Students in this course will investigate the world of Atlantic Piracy by building their skills in independent scholarly research.

HIS 322 Revolutionary America 3 credits

Suggested prerequisite: HIS 101 United States History I, or equivalent recommended.

This course examines the conditions in both the American colonies and Great Britain that caused resentment, rebellion, a declaration of independence, war, and eventually led to the formation of a new kind of government. This course will be a thematic exploration into some important historical problems that remain central to American life and culture, including the origins and development of democracy and republicanism, the role of women, slaves, and Native Americans in the upheaval, and the way we frame our nation's

founding today. Through primary and secondary source analysis, students in this course will also gain valuable research, writing, and critical thinking skills useful in a wide variety of careers.

HIS 325 African American History 3 credits*Prerequisite: none*

This course surveys the history of the African American people from their origins in Africa, through slavery and emancipation, through waves of migration from countryside to city and South to North, through wars and depression, through the recent Civil Rights and Black Power Movements, to the present. Students will focus on questions of social development, political struggle, culture, and identity. Through 5 key themes of challenges, culture, causality, courage and complexity, students will apply historiographical skills to unravel issues of the present day and interpret a variety of sources. Students will also have the opportunity to select a topic of their choice and history.

The course uses no-cost open educational resources in place of a textbook.

HIS 326 A History of Women in America 3 credits*Prerequisite: none*

This course examines the history of the United States from the colonial period to the 21st century from the perspective of women. The course will focus on women's roles as individuals, constituents of families, and community members. Students compare the myths and ideology of womanhood with the diversity of American women's experiences. The course also examines the impact of changes in the economy, society, and politics on women's roles and perspectives. Students in this course will enhance their understanding of diversity and hone their research and source analysis skills, useful in a wide variety of careers.

HIS 335 United States Civil War 3 credits*Prerequisite: none*

The Lincoln presidency. Antietam. The Emancipation Proclamation. Gettysburg. Draft Riots. Sherman's March. Appomattox. The Civil War was a pivotal turning point in American history and its legacies are still with us today. From its

antecedents in Antebellum America to its legacies in the Reconstruction era through today, this course will investigate the causes and consequences of the war. The course will cover the major battles and the military and political circumstances that led to the Union's victory and Confederacy's defeat. It also covers the social, cultural, and economic histories of the war and its impact on the people who lived through it on the battlefields and the home front.

HIS 350 World War I 3 credits

Prerequisite: none

Known colloquially as the "Great War" and the "War to End All Wars," World War I was a watershed event in the twentieth-century. Borne out of imperial rivalries and complex European alliances, the war erupted suddenly in 1914 and ended more than four years later, at the eleventh hour of the eleventh day of the eleventh month. In the years between, the Allied and Central Powers engaged in a horrific and devastating "Total War," drafting unprecedentedly large armies and transforming their economies to support the war effort, yet producing little more than stalemate and death on much of the Western Front. The Great War changed how wars were fought and introduced new technology to the battlefield. Students in this course will examine the origins and consequences of the war, the major strategic decisions, as well as the intertwining history on the homefront of the combatant nations. Students will engage with the historical material through innovative games and simulations which are designed to allow students to experience the war's major decision points and strategy as if they were really there. Along with the simulations, students will read primary source accounts of the war to understand the war's significance, its toll on the "Lost Generation," and its ramifications today as we commemorate the war's one-hundredth anniversary.

This course includes gaming technology that requires students to have a web browser that meets the minimum Excelsior system requirements.

The course uses no-cost open educational resources in place of a textbook.

HIS 353 Holocaust 3 credits

Prerequisite: none

This course examines the "Holocaust," the deliberate, systematic, and mechanized murder of more than six million Jews and hundreds of thousands of other victims by Nazi Germany during World War II. The class will take a broad view of this atrocity, seeking to explain why and how it was possible and, ultimately, asking what lessons we can learn from this history for the present day. The Holocaust will be approached as an event with multiple, complex causes: a centuries-old history of European anti-Semitism; the advent of modern "racial science" and ethnic nationalism; the global economic, social, and political crises of the early twentieth century; the rise of Adolf Hitler and the Nazi Party in Germany; the structure of the Nazi State; the context of Hitler's "war of annihilation" on the Eastern Front; and the willingness of many "ordinary" Germans and non-Germans to participate in the Nazi's plans. We will look at the experiences of victims and "bystanders" as well as perpetrators in order to understand this tragedy from multiple perspectives. Students will gain valuable research, writing, and critical thinking skills while also learning to analyze complex ethical problems.

HIS 354 Transatlantic Slave Trade 3 credits

Suggested prerequisite: HIS 101 US History I, or equivalent.

This course examines the nefarious transatlantic slave trade which drew together multiple continents and operated from 1441–1867. Topics covered include: the origins of the racialized system of slavery, individual accounts of the trade, the consequences of the trade on the economies, societies, and cultures of Africa, Europe, and the Americas, and abolition. Students use primary and secondary sources and the transatlantic slave trade database to enhance their research and critical thinking skills, useful in a wide variety of careers.

HIS 356 The Global Cold War 3 credits

Suggested prerequisites: A lower-level history course such as HIS 101, HIS 102, or HIS 120.

This course examines the period in world history from the Yalta Conference in 1945 to the end of the Soviet Union in 1991, generally called the Cold War. Students examine the political, economic, and militaristic motivations behind superpower behavior and the role of these actions in laying the foundations for global circumstances today. In exploring the relationship between the First, Second, and Third Worlds in this period, students understand the complex mix of individuals and ideology that shaped the events of the Cold War and continue to dramatically shape global affairs today.

This course was cross-listed with MLS 556. Credit for only one of these courses will be applied toward graduation.

This course replaces HIS 351 Cold War. Credit in only one of these courses may be applied toward graduation.

HSC 112 Medical Terminology 3 credits

Prerequisite: none

This course will prepare the student to use and understand medical language both auditory and written. Students will learn how to deconstruct medical terms to fully comprehend their meaning with word roots, word structure, suffixes and prefixes, and will practice using special vocabulary of specific human biological systems in the context of medical documents.

HSC 121 Health Care in the United States 3 credits

Prerequisite: none

This course provides the students with opportunities to explore the structure and function of the United States (US) health care delivery system. Students will learn about health care finance, settings for care, modes of delivery, the role of technology, and key trends in health care.

HSC 124 Professionalism in Health Care 3 credits

Prerequisite: none

This course provides students with an opportunity to explore multiple aspects of professionalism in the health care occupations. Topics covered include cultural competence, legal and ethical issues, effective communication, interdisciplinary teams, and professional competence.

HSC 205 Introduction to Health Care Management 3 credits

Prerequisite: none

This course will provide students with a basic overview of the necessary skills and knowledge for a career in health care management. A broad overview, with a health care perspective, will be presented on such topics as leadership, strategic planning, marketing, finance, quality, technology, legal issues, and human resources.

HSC 214 Ethics and the Health Professions 3 credits

Prerequisite: none

This course provides students with an opportunity to explore ethical principles and apply ethical reasoning to dilemmas in health care environments. During this course, students will discuss multiple challenges faced by health care professionals and approaches a health care manager can use to protect the rights of individuals, families, and staff.

HSC 220 Spanish Communication for the Health Care Professions 4 credits

Prerequisite: none

This course introduces novice Spanish language concepts with a focus on speaking, listening, reading, and writing for healthcare professionals. You will participate in the Language Labs, where you will learn grammar, vocabulary, and pronunciation to give you skills to effectively speak and listen with Spanish-speaking individuals. You will also discuss the cultures of the Spanish-speaking world in relation to health. You will learn to understand cultural competency. At the end of the course, you will compile a knowledge base document called a Toolkit project for your future use.

This course was cross-listed with SPA 220. Credit for only one of these courses will be applied toward graduation.

HSC 235 Sex, Gender And Health 3 credits*Prerequisite: none*

Students are introduced to issues in gender health from the biopsychosocial perspective. The role of social norms and expectations, social and political policy, family and community, lifestyle factors, will be explored in the context of health outcomes. Disparities that individuals face in the health care system based on sex and gender will be examined.

HSC 292 Associate In Health Sciences Capstone 3 credits

Prerequisite: Students must have completed all other requirements of the professional and additional credit components degree including the written English requirement, and be within 9 credits of completing the arts and sciences component.

This course will assess the knowledge students gained throughout the curriculum of the Associate's in Health Science degree program. Students will have the opportunity to demonstrate their understanding of the health care delivery system as it relates to specific health care professions. Students will also exercise and refine their professional skills through activities such as resume writing and responding to interview questions. Students will apply effective critical thinking and communication skills throughout the course.

HSC 302 Principles of Health Care Management 3 credits*Prerequisite: none*

This course provides you with critical knowledge to fulfill the role of health care manager. In this course you will be introduced to US law, governing bodies, and regulatory controls that set standards for healthcare and challenge health care managers when addressing legal, financial, ethical, and quality control issues. You will investigate current trends and critical issues that have emerged in the 21st century, and you will explore ways in which health care managers can respond to these changes. You will learn about opportunities as well as challenges present in today's health care environment that are important to health care managers when managing

conflict and making decisions within a health care organization.

HSC 304 Exercise for Health 3 credits*Prerequisite: none*

People have long known about the importance of getting enough exercise. Yet life often gets in the way of developing sustainable exercise routines for healthy living. Lack of knowledge can put people at risk for injury. In this course, students learn how to develop safe, effective, and goal oriented exercise programs for both healthy people and those living with chronic illnesses or physical limitations. Current evidence-based exercise protocols and strategies are explored. Common myths are discussed. Motivational techniques for developing and sustaining exercise programs are examined.

HSC 305 Critical Issues in Health Care Management 3 credits*Prerequisite: none*

This course provides you with an overview of current issues that influence the delivery of health care. During this course, you will investigate current trends and critical issues that have emerged in the early 21st century and will explore ways in which health care managers can respond to these changes. You will learn about opportunities as well as challenges present in today's health care environment that are important to health care managers.

HSC 310 Writing And Communication in the Health Science Professions 3 credits*Prerequisite: none*

Effective communication skills are vital in the health professions. Taking this course early in a degree program provides essential preparation for academic work. A broad range of topics are explored including communication styles, cultural awareness, communication through social media, writing as a process, and effective professional presentations. The essential skill of writing to persuade, while communicating important health practices, is practiced preparing for communicating with clients and the public. This is a writing-enriched (WE) course.

HSC 312 Ethics of Health Care 3 credits*Prerequisite: none*

This interdisciplinary course guides students through a systematic analysis of contemporary ethical issues in health care and human services. Students will use ethical theories, principles, and codes to develop ethical decision-making processes for addressing difficult ethical dilemmas that are often encountered by professionals in human services and healthcare fields. As legal policies and historical considerations often underpin ethical issues, students will become conversant in pertinent policies to better understand the complexities of the ethical issues encountered by professionals.

This course was cross-listed with PHL 312. Credit for only one of these courses will be applied toward graduation.

HSC 316 Mind, Body and Health 3 credits*Prerequisite: none*

This course examines the psychology of behavior as it relates to health and fitness. You will learn how stress and lifestyle, physical activity, and diet influence human health and fitness. We will examine health and fitness across the lifespan, as well as how behavior impacts health and behavioral changes to improve health outcomes. We will study research to understand evidence-based practices that health practitioners use to promote healthy behavior. And learn how theories inform methods for influencing behavioral changes. You will develop a holistic plan for diet and physical fitness for various target populations. This course is appropriate for professionals working in personal health training or other health-related or psychology-related fields.

This course was cross-listed with PSY 316. Credit for only one of these courses will apply toward graduation.

HSC 320 Health Care Issues in Culturally Diverse Populations 3 credits*Prerequisite: none*

This course introduces students to the concepts of culture and cultural diversity as they relate to health, illness, and the health care delivery system. There are many types of diversity, including but not limited to religious, racial, ethnic, gender identity, sexual orientation, socioeconomic, disability, regional, and others that exist in our global society. We will examine the roles that belief systems, values, and health practices play in people's interactions with health providers. Common myths and assumptions will be explored. We will also investigate strategies that health professionals can implement to create more inclusive services.

This course was cross-listed with SOC 320. Credit for only one of these courses will be applied toward graduation.

HSC 330 Legal and Regulatory Environment of Health Care 3 credits*Prerequisite: none*

In this course you will be introduced to U.S. law and the legal process in healthcare. You will acquire a foundation for understanding the scope, limits and consequences of legal obligations. You will also learn about the governing bodies and regulatory controls which set standards for healthcare, and you will apply your knowledge in identification of legal issues often encountered in health administration.

HSC 331 Psychosocial Impact of Chronic Illness on Person and Environment 3 credits*Prerequisite: none*

Chronic illness affects individuals, families, communities, and society. Students will learn how to critically examine these complex interactions from both theoretical and practical perspectives. This course explores the psychological and social aspects of chronic illnesses, with an emphasis on empowerment of individuals living with them. Students will develop an understanding of stigma in the experience of chronic illness. Emphasis will

be placed on connecting individuals, families, and communities with resources to successfully manage chronic conditions.

This course was cross-listed with PSY 331 and SOC 331. Credit for only one of these courses will be applied toward graduation.

HSC 402 Managing Stress 3 credits

Prerequisite: none

This course focuses on the nature of stress and the connection between mind, body and spirit. Students will study the different theoretical models of stress from a variety of theorists while exploring coping strategies and relaxation techniques for healthy living in today's changing world. Students will also create an individualized stress management program plan.

HSC 403 Nutrition for Wellness 3 credits

Prerequisite: none

This course uses several short game-based learning activities to learn decision-making about nutrition based on environmental circumstances and health conditions. Students learn how nutrition relates to health, wellness, and disease prevention. Students develop personalized nutrition plans and gain an understanding of the impact of nutrition at all stages of life. Students will gain knowledge on how to separate fact from fiction. Food safety and innovations in food technology will be examined.

HSC 407 Health and Wellness 3 credits

Prerequisite: none

Learn about the theory and practice of health and wellness, inside and out. This course begins with an opportunity to assess health and wellness at individual and community levels. From there you will learn to apply theory and evidence-based practice to develop health and wellness interventions, including individual planning and group-based programs. You will learn the essential components of creating interventions directed toward specific at risk populations, as well as targeting specific behaviors like smoking cessation and obesity. You will discover the important role health and wellness practitioners

play in supporting individual, group and community health and wellness. You will also engage in a community assessment of health and wellness resources.

HSC 414 Budget and Finance in Health Care Organizations 3 credits

Prerequisite: none

This course guides students through an examination of financial principles and techniques used by managers in health care facilities. Budget preparation and management, and analysis in the context of the evolving health care environment are the focus of this course. This course is required for students enrolled in the Nursing Management Certificate Program, Bachelor of Science in Health Care Management, the Management emphasis of the Bachelor of Science in Health Sciences, and is used to fulfill nursing elective credit requirements for the Bachelor of Science in nursing program.

This course was cross-listed with NUR 414. Credit for only one of these courses will be applied toward graduation.

HSC 418 Human Resource Management in Health Care Organizations 3 credits

Prerequisite: none

This course explores the human resource function of the manager in a health care organization. It covers a wide range of topics including staffing, worker safety and security, general employment practices, organizational development and employee relations. Upon completion of the course, students will be able to implement/integrate evidence-based human resource strategies into the day-to-day management of their departments.

This course was cross-listed with NUR 418. Credit for only one of these courses will be applied toward graduation.

HSC 432 Introduction to the Health Care Delivery System 3 credits

Prerequisite: none

This course provides a comprehensive overview of the U.S. health care delivery system and the forces that influence it. Students will examine the continuum of health care delivery from

prevention through individualized clinical health care, including the importance of inter-professional collaboration. Students will explore historical influences on today's U.S. health care delivery system and will have the opportunity to investigate the roles of government, finance, regulators, and providers in the health and public health arenas. The inter-connectedness of the U.S. health care delivery system with global health care systems will be explored.

This course duplicates HSC 431/NUR 431. Credit for only one of these courses will be applied toward graduation.

HSC 440 Leadership and Management in Health Care Seminar 3 credits

Prerequisite: none

Using the teachings of contemporary leadership mentors, students will build an individualized professional leadership plan where they envision themselves as leaders within their professional career role. Skills for decision-making, motivating, negotiating and professionalism will be learned. Students will demonstrate foundational skills of oration, self-awareness, and use of an ethical lens, so important for health care leaders.

HSC 445 Introduction to Health Care Informatics 3 credits

Prerequisite: none

This multidisciplinary course introduces students to the role of information management in health care. Students will explore benefits, issues, risks and challenges related to the electronic health record and other information systems in the health care environment. Students will also explore the field of consumer informatics and its use in providing health related information to health consumers. The course will address the role of the health provider in working with computers and information management systems in health care.

HSC 450 Economics of Health Care 3 credits

Prerequisite: none

This course introduces you to the field of health-care economics. During the course, you will learn the concepts and principles of microeconomics as they apply to healthcare. You will explore why and how healthcare differs from other markets. Topics to be covered include the cost of health care, funding of health care, and government regulation. In addition, there is a focus on behavioral economics and emerging trends in multiple health care settings.

HSC 464 Health Sciences Capstone 3 credits

Prerequisites: Students must have completed all other requirements of the health sciences component, completed the written English requirement, and be within 9 credits of completing the arts and sciences component.

This end-of-program capstone course of the Bachelor of Science in Health Sciences curriculum requires students to demonstrate mastery in previously learned knowledge, principles, and skills to analyze case-based problems common in the health field and propose evidence-based solutions. This is an exciting opportunity to challenge yourself in the role of an expert as you address a real-world situation. You will also have opportunities to interact with other class members, not only as students but as soon-to-be-graduating professional colleagues, as you discuss and compare your perspectives on health issues. The capstone will also provide you with a place to consider your next steps as a bachelor's-level graduate.

HSC 470 Healthcare Management Capstone 3 credits

Prerequisites: Students must have completed all other requirements of the professional and additional credit components degree including the written English requirement, and be within 9 credits of completing the arts and sciences component.

This end-of-program capstone course of the BS in Health Care Management curriculum requires students to demonstrate previously learned knowledge, principles, and skills to analyze health science-based case problems. Using a variety of case analysis tools, students will

analyze cases both as a member of a team and individually and will discuss case studies that examine the professional role in health care. This course provides students with an opportunity to demonstrate their ability to integrate and apply knowledge of the arts and sciences, business functions, and health care management principles and concepts.

HUM 236 Leadership in Film 3 credits

Prerequisite: none

Have you ever been in a tough spot at work and had to tell yourself, like Gene Kranz did during the Apollo missions, that “Failure is not an option”? Or maybe you’re more of an Erin Brockovich-type who charms your way into getting what you want. If you’re someone who loves to learn by example, watching films specifically targeted to illustrate leadership concepts is a great way to learn how to maximize employee loyalty, increase profits, and master leadership principles.

Students will be expected to observe, identify, and report on key leadership, management, and organizational styles portrayed in the selected films. Many of the films included in the course are classic, iconic, and/or award-winning.

No textbook required, only films to view and articles to read.

The content of the films, as well as the content of many of the discussions, will contain mature themes and subject matter.

HUM 253 Mythology 3 credits

Prerequisite: none

An adventure is calling! Will you answer? Which road will you choose to explore? In this course, you’ll not only study mythology but actually experience it when you undertake your own “hero’s journey.” You might wonder, “Who am I going to meet on my journey? Will it be Harry Potter, Batman, or Katniss?” On your road of trials, maybe you will bump into a classical mythological figure like King Arthur or be shocked by the African trickster like Anansi. Along the way, too,

you may be surprised by negative experiences or shocked by monstrous figures.

The only required text for this course is an eBook that is available through the Excelsior library.

HUM 300 Ethics 3 credits

Suggested prerequisites: none

Why doesn’t Batman kill the Joker? Is Spider-Man right that with great power comes great responsibility? In this course, you can easily explore a variety of approaches to ethics by examining moral issues through superheroes and their world-shaking struggles.

The course uses superheroes to investigate enduring human questions and controversial issues to deepen your engagement with the ethical dimensions of our world. Your foundation includes traditional ethical theories such as relativism, utilitarianism, and virtue ethics and, also, the more current feminist, postmodern, and global ethical theories. Ethics influences all our relationships, shapes our decisions at work, and deeply infuses our culture. Superheroes can help us see how even the smallest decisions can have far-reaching consequences.

If you are a military student, this course may help you apply ethical concepts to civilian contexts.

Most of the required books and articles are accessible through the Excelsior library and in the course.

HUM 306 Creative Problem Solving 3 credits

Prerequisite: none

Ever wonder how Steve Jobs created such amazing products or Sarah Lewis used failure for creative success? Given the rapid changes in today’s economy and workplace, creativity and innovation continue to be important skills that support career growth. Because employers continuously rate the ability to solve problems as an essential skill, this course is designed to introduce and strengthen a student’s ability to move through logical problem-solving processes in order to creatively find solutions to problems that are personally or

professionally relevant to them. Neuroscience research affirms that we all possess the same mental capacities as people with highly inventive minds, so students will study innovators and global thinkers who will show them the crucial techniques to increase their competency, sharpen their skills, and develop their innovative mindset.

Most reading and viewing materials for this course are cost-free and are easily accessed through the Excelsior library or within each module of the course.

HUM 307 Critical Thinking

3 credits

Prerequisite: none

One of the most pressing questions a student always has about any given course is, “How will this class help me in the real world?” A class on critical thinking is arguably the most useful and valuable course you can take, no matter what field of study you are pursuing. Not only will you learn how to effectively solve personal and professional problems and achieve goals, you will also deeply examine some of the most important issues in your life. Tackle real world situations, evaluate arguments from a range of perspectives, and skillfully articulate a position. By the end of the course, you will have mastered the understanding that it is not so much what you know, but how skillfully you think!

Throughout the course, there will be subject matter and material covered in the readings, viewings, or discussions that may appear to be controversial to some students. Please use your own discretion to gauge whether or not this course is right for you.

HUM 321 I Feel Your Pain: Illness and Empathy in the Arts

3 credits

Prerequisite: none

How do people experience being ill, and how does it change their lives? Children, parents, family, friends and even we, ourselves, will struggle with sickness, disease, and death. People do not simply suffer from diseases, but from the emotional, psychological, social and cultural dimensions of being an individual or a patient

with a disease. What are the obstacles and triumphs experienced by a boy with autism? How does a woman with cancer feel about losing her hair? What’s it like for a transgendered person to be treated at a hospital? Through the use of film, music, art, poetry, and fiction, students feel and experience how illness or disease affects individuals; they also learn about illness from different perspectives, such as race, class, gender and sexual orientation. Lastly, this course provides many alternative perspectives on illness or the practice of medicine—outside the conventional views of medicine—concerning death, mental illness, grief and suicide.

This course was cross-listed with NUR 321. Credit for only one of these courses will be applied toward graduation.

IND 101 Cornerstone A: Foundations

Prerequisite: none

The future: the only constant is change. The only certainty is uncertainty. So how do you prepare today for what might come tomorrow? In this introductory, interdisciplinary course unique to Excelsior University, you will learn through questions, not answers. You’ll challenge your prior assumptions, open your mind, and consider society’s future dilemmas, progress, and crises. You’ll plan and question your own future—your educational path, career trajectories, personal interests, ambitions, and mindsets. And you’ll build the foundational skills and flexibility of mind—research and writing, critical thinking, argumentative reasoning, metacognition, and self-regulation—to help you navigate the uncertainty and change of our future societies, workplaces, and selves.

This course must be completed with a grade of C or higher. Registration in this course is restricted to incoming students with fewer than 60 transfer credits. This course duplicates IND 301 and CCS 120. Credit for only one of these courses will be applied toward graduation.

The Cornerstone cannot be completed in the same term as the Capstone course.

IND 203 Professional Ethics

Prerequisite: none

In this interdisciplinary course, students will develop the analytical skills necessary to examine ethical issues in the workplace. Students explore conventional ethical theories and principles, develop ethical decision-making, and resolve common dilemmas. Students discuss the multiple challenges faced by professionals and identify ethical practices or codes that apply to each of their own professions.

The only required text for this course is an eBook that is available through the Excelsior library.

IND 301 Cornerstone B: Pathways

Prerequisite: none

The future: the only constant is change. The only certainty is uncertainty. So how do you prepare today for what might come tomorrow? In this upper-level, interdisciplinary course unique to Excelsior University, you will learn through questions, not answers. You'll challenge your prior assumptions, open your mind, and consider society's future dilemmas, progress, and crises. You'll plan and question your own future—your educational path, career trajectories, personal interests, ambitions, and mindsets. And you'll hone the skills and flexibility of mind—research and writing, critical thinking, argumentative reasoning, metacognition, and self-regulation—to help you navigate the uncertainty and change of our future societies, workplaces, and selves.

This course must be completed with a grade of C or higher. Registration in this course is restricted to incoming students with 60 or more transfer credits. This course duplicates IND 101 and CCS 120. Credit for only one of these courses will be applied toward graduation.

The Cornerstone cannot be completed in the same term as the Capstone course.

INL 102 Information Literacy

1 credit

Prerequisite: none

Information literacy is the ability to find, evaluate, interpret, and use information legally, ethically, and effectively. This course provides a broad overview of information literacy concepts, including cyber literacy, the knowledge-creation process, finding and evaluating sources, critical reading, and writing with sources. It also addresses academic honesty, information ethics, and copyright law.

This five-module class is self-paced; however, students must complete all course materials by the end of the 8-week term in which they are registered. Students must complete all required activities in each module, and score an 80% or higher on the module quiz, before moving on to the next. Required activities include readings, module notes, "Try It Yourself" activities, module quizzes, and module surveys. This is a pass/fail course. Students must score an 80% or higher on each module quiz to pass the class. Students should plan on spending around 9 hours of work per module, or 45 hours for the class as a whole.

INT 401 Professional Experience

3 credits

Prerequisites: none; however, it is recommended that this course be taken toward the end of the student's program of study.

This course explores characteristics and benefits of Problem Based Learning using a provided problem in the student's respective field of study. Students will work toward resolving an open-ended problem rather than one with a defined solution. Application of previous coursework in addition to critical thinking and analysis will be used in solving the problem, and you will receive guidance from your instructor throughout the course. The course offers opportunities to apply the Problem-Based Learning concepts with action planning exercises. The assessment module demonstrates strategies for assessing students' life readiness skills throughout an open-ended project. Students will also work on self-branding throughout the course in order to better assess their strengths and areas of interest in applying previous experience and to aid in career planning.

IT 200 Hardware and Software Essentials

3 credits

Prerequisite: none

Essentials (ITE) curriculum offers a hands-on, career-oriented learning experience with an emphasis on practical activities to help students develop fundamental computer and career skills. Essentials helps students prepare for entry-level career opportunities and the CompTIA A+ certification, which helps students differentiate themselves in the marketplace and advance their careers.

IT 200 prepares the student for the CompTIA A+ certification exam.

IT 210 Object-Oriented Programming

3 credits

Prerequisites: Basic computer literacy. Knowledgeable about using computers and the Internet. Have a computer for course work. Knowledgeable about downloading programs from various Web sites. Knowledgeable about installing downloaded programs. During the first week of class, the student will be instructed on how to install JAVA and Net Beans in order to complete the programming assignments. Covers problem solving and algorithm development using the object-oriented programming language Java. Introduction to object-oriented features including encapsulation, inheritance, and polymorphism. Examines the development of processes of design, coding, debugging, and documentation. Focuses on techniques of good programming style.

This course duplicates IT 240 Introduction to Programming. Students cannot receive credit for both courses.

IT 211 Fundamentals of Programming

3 credits

Prerequisite: none

Python is a popular, versatile programming language and is one of the main programming languages used to run applications like: YouTube, Google, Dropbox, Instagram, Spotify, and Reddit. This course will introduce students to basic concepts in programming through the Python language. The concepts to be covered include, but will not be limited to: variables, Boolean logic, loops, collecting user input, displaying output

and/or saving it to an external file, lists, strings, objects, inheritance, recursion, and Graphic User Interface (GUI) programming. Students will have multiple opportunities to practice the debugging process throughout the course. By the end of this course, students will be able to apply these concepts to create executable programs to meet many real-world needs. This will prepare students for more advanced work, using a more advanced programming language in the next course in the sequence, **IT 313 Intermediate Programming**.

IT 221 Introduction to Computers

3 credits

Prerequisite: none

This course provides students with a fundamental knowledge of the computer system and its components, including computer hardware and architecture, application software, operating systems, networks, and the Internet. Advanced topics such as information privacy and security, database and data warehouse, data mining, and legal, ethical, and privacy issues in the information technology field will also be introduced in this course. Additionally, students will participate in learning activities to develop the needed skills to work with Microsoft Office suite.

IT 240 Introduction to Programming

3 credits

Prerequisite: none

This course is an introduction to the C++ programming language through a study of the concepts of program specification and design, algorithm development, and coding and testing using a modern software development environment. The student will grasp the basics of both procedural and non-procedural (Object Oriented) Programming. Topics covered include fundamentals of algorithms, problem solving, programming concepts, classes and methods, control structures, arrays, and strings. This course will serve not only as an introduction to programming in C++ but also as a preparation for a more advanced C++ course involving data structures and algorithmic development.

This course duplicates IT 210 Object Oriented Programming. Students cannot receive credit for both courses.

IT 250 Business Data Communications 3 credits*Prerequisite: none*

This course offers an overview of the current theory and practice of business data communications and networks. It places emphasis on the role of the telecommunications industry in the growth of information societies and their reliance on knowledge and information services to stimulate economic growth. The course examines the seven-layered Open Systems Interconnection (OSI) reference model proposed by the International Standards Organization (ISO) and the notion of network architecture to manage information and communications.

IT 250 prepares the student for the CompTIA Network+ certification exam.

IT 313 Intermediate Programming 3 credits*Suggested prerequisite: IT 211 Fundamentals of Programming*

This is an intermediate programming course that covers problem solving and application development using the popular programming language Java. Students will develop programs that focus on principles of software design and program clarity to solve real-world scenarios. This will prepare students to code and debug programs and applications written in the Java language, a common expectation in Information Technology.

IT 321 Computer Systems Architecture 3 credits*Prerequisites: MAT 205 Discrete Structures; IT 210 Object Oriented Programming or related course work.*

This course is an introduction to the basic components and structure of the computer. The course covers in detail basic Boolean algebra, fundamentals of computer design, instruction set principles, RISC/CISC processors, instruction and processor level parallelism, memory hierarchy, pipelining, assembly language, and parallel computer architectures. The course will also address the architecture and microprogramming of the processor.

IT 361 Computer Organization and Operating Systems 3 credits*Prerequisites: MAT 205 Discrete Structures, IT 313 Intermediate Programming*

In this course, the architecture of a modern computer system and the organization of an operating system are emphasized. Course topics include an overview of computer architecture, central processing unit architecture and instructions, arithmetic and logical operations, structure of modern operating systems, operating system functions, concurrency and synchronization, process control, interprocess communication, memory organization and management, file systems, interfaces to network structures, protection and security, and virtualization concepts. These concepts are reinforced with practical applications using a personal computer, Raspberry Pi, and computer programs and scripts. Completion of the course requires students to perform several lab exercises that investigate and apply key architecture and operating system features, and development of computer programs and shell scripts. A final project is assigned where students apply the concepts to demonstrate mastery of the subject matter.

IT 370 Database Management Systems 3 credits*Prerequisites: IT 211 Fundamentals of Programming, IT 313 Intermediate Programming, or any related programming course.*

This course examines the technology and impact of the design of database systems on the organization. It covers the application, design, and implementation of database systems. Topics include an introduction to basic database concepts, database design principles including Entity-Relationship (E-R) diagrams and database normalization, SQL queries, transaction management, distributed databases, data warehousing, and database administration. The course focuses on the relational model.

IT 371 Web Design and Development 3 credits

Prerequisites: IT 210 Object-Oriented Programming, IT 240 Introduction to Programming, or any related programming course.

The course will cover the fundamental principles of web programming and formatting. This will include learning the difference between client side and server side scripting technologies, effective use of web authoring tools and code development. The course will also cover web design standards and the need for integrating human-computer interaction principles in web design. The final project in the course will enable learners to apply current development and production practices to design web pages.

IT 375 Human Computer Interactive Design 3 credits

Prerequisite: IT 371 Web Design and Development

The hallmark of human-computer interaction (HCI) is the understanding of human behavior. The course starts with fundamental concepts related to human behavior through the lens of HCI, human-centered design, user experience (UX) and user interface (UI). These concepts are applied experientially throughout the 8 modules of the course. Research design, persona development, information architecture, low and high fidelity prototyping using wireframing are all used to develop a minimally viable product (MVP) using HTML and CSS. The course long project is the culmination of material covered throughout the course and can be used as a portfolio item to showcase classwork for an interview or other employment situation.

IT 380 Overview of Computer Security 3 credits

Prerequisite: IT 250 Business Data Communications

This course will focus on providing you with insights, guidance, and best practices on the principles of information security. Students develop an understanding of the technologies and methods utilized to defend systems and networks. They learn to describe, evaluate, and operate a defensive

network architecture employing multiple layers of protection, using technology appropriate for secure mission accomplishment. Students will also examine the various types of vulnerabilities (design and implementation weaknesses), their underlying causes, their identifying characteristics, the ways in which they are exploited, and potential mitigation strategies.

IT 380 prepares the student for the CompTIA Security+ certification exam.

IT 390 Project Management 3 credits

Prerequisite: ENG 101 College Composition

This class is designed to train students in the principles of project management. Students study the skills required of a project manager as well as learn the methodologies, tools and processes used to succeed in this field. Interactive and self-study methods are used to enhance the students' skills in planning and managing project scope, schedules, costs, quality, risks, communications, purchases, human resources and stakeholders. This course is writing intensive and has weekly writing assignments used to improve students' ability to write professionally.

IT 402 Network Security 3 credits

Prerequisites: IT 250 Business Data Communications, IT 380 Overview of Computer Security or related course work.

This course covers the foundations of network security and provides an in-depth review of commonly used security mechanisms and techniques, security threats and network-based attacks, applications of cryptography, authentication, access control, intrusion detection and response, security protocols (IPsec, SSL, Kerberos), denial of service, viruses and worms, software vulnerabilities, web security, wireless security, and privacy. Additionally the course covers important network security tools, applications, and methods for preventing breaches.

IT 404 Web Security 3 credits

Prerequisite: IT 380 Overview of Computer Security, or related course work.

This course provides an overview of both Web application security concepts and software security concepts in general, including the current top 10 most critical Web application vulnerabilities identified by the Open Web Application Security Project (OWASP). Additionally the course deals with principles of securing common areas of functionality of Web applications and presents concepts regarding secure development and deployment methodologies, including Microsoft's Security Development Lifecycle (SDL), OWASP's Comprehensive Lightweight Application Security Process (CLASP), the Software Assurance Maturity Model (SAMM), and Building Security In Maturity Model (BSIMM).

IT 406 Computer Forensics 3 credits

Prerequisite: IT 380 Overview of Computer Security

This course presents a detailed and comprehensive methodological approach to conducting cyber investigations, responding to incident scenes, and performing forensic examinations of digital evidence.

As part of a digital forensics team working in private, government and law enforcement sectors you will encounter a variety of cyber events demanding the use of many common investigative techniques and professional forensic tools, as well as industry standards and best practices.

In the process, you will experience the complete digital forensics lifecycle from identification, preservation, and collection to examination and analysis—including the development of relevant documentation associated with the reporting of forensic results—as well as the presentation of your findings.

IT 408 Information Assurance Management 3 credits

Prerequisite: none

This course focuses on the protection of information systems against unauthorized access to or modification of information whether in storage, processing or transit, and against the denial of service to authorized users, including those measures

necessary to detect, document, and counter such threats. Emphasizes importance of sensitivity to threats and vulnerabilities of information systems and the recognition of the need to protect data.

IT 410 Fundamentals of Cryptography 3 credits

Prerequisite: MAT 205 Discrete Structures, or comparable course in discrete mathematics.

In this course students will learn the history of cryptography and its role in information assurance. Students will examine the inner workings of various cryptographic models and techniques and will be able to identify the appropriate uses of symmetric and asymmetric encryption. Students will learn how to assign measures of strength based on cryptographic algorithms and keys. This course will focus on applied cryptography, and students will examine various situations and identify the level of cryptographic strength that is needed as well as the implementation factors related to its suitability for use. Lastly, students will understand the common pitfalls and weaknesses associated with the implementation of cryptography techniques, and will understand the challenges and limitations of various key management systems.

IT 418 Software Systems Analysis And Design 3 credits

Prerequisite: A programming language course.

The course will focus on the concepts and techniques of modern systems analysis and design. This includes traditional approaches to the system development life cycle and modeling of system requirements and design. The course will describe the role of the analyst in investigating current systems, defining IT requirements, working with technical and non-technical staff, and making recommendations. Some course topics include the system development environment, types of information systems, rapid application development, role of the systems analyst, initiating and planning a systems development project, determining systems requirements, process modeling, logic modeling, project documentation, understanding the elements of systems design, designing the user interface, designing system interfaces, and controls and security considerations.

IT 422 Advanced Networking 3 credits

Prerequisite: IT 250 Business Data Communications, or related course work.

IT 422 introduces students to Switching and Routing as it pertains to the LAN. We will learn about technologies such as VLANs, EtherChannels, DHCP, device configuration, and troubleshooting. You will also get an introductory look at network security from the perspective of the LAN.

IT 424 Network Operating Systems 3 credits

Prerequisite: A working knowledge of at least one operating system with Internet connectivity, and basic computer networking including LANs, WANs and TCP/IP.

In this course, you will be identifying the main functions of operating systems and network operating systems and distinguishing between the two. You will also be examining and comparing the basic features of common network operating systems including Windows, Linux, and MacOS. Not to mention exploring common examples of network utility software and Internet software, software licensing agreements, and addressing network security and backup/recovery issues.

You will do all this in the context of being the new network administrator for a fictional entity called Plastic Molds Industries who desperately needs to modernize their client/server systems.

IT 425 Network Management 3 credits

Prerequisite: IT 250 Business Data Communications, or equivalent courses

IT 425 extends the students' working knowledge to include the WAN. We will cover technologies such as the OSPF Routing protocol, Access Control Lists, NAT/PAT, and other network management protocols. We will introduce the concept of virtualization on the network and the end device. Network automation is a popular topic that is gaining ground in modern networks. This course will introduce these concepts.

IT 425 prepares the student for the Cisco Certified Network Association Exam.

IT 426 Wireless Technology 3 credits

Prerequisite: IT 250 Business Data Communications, or related course work.

Describes the infrastructures, components and protocols of a wide range of wireless technologies. The course commences with a brief review of networking fundamentals including software and hardware used for interconnection of traditional wired networks. Examines existing wireless technologies such as global positioning satellite (GPS), cellular digital packet data (CDPD), general packet radio service (GPRS), infra-red (IR), the operation and protocols for simplex tone and data paging systems, and local multi-point communication systems (LMCS). Addresses additional technologies such as Bluetooth, digital audio broadcast (DAB), and IMT-2000.

IT 428 Telecommunications Management

Prerequisite: A background in Data Communications, and Computer Networking, or equivalent coursework/experience.

Focuses on the management of diverse network systems involving a set of layered responsibilities, which ensure that network communications channels are continuously available and perform optimally from source to destination. Topics include differentiating between technical, financial and operational responsibilities, network capacity planning and traffic analysis techniques, measurement of network reliability and availability, basic hardware and software network diagnostic tools, network security issues, and network help desk operations.

IT 430 Network System Design and Management 3 credits

Prerequisite: IT 250 Business Data Communications, or related course work.

This course covers network design and management principles that network analysts, architects, engineers, and administrators must consider when planning, designing, implementing, and maintaining their network. Course topics include network management functions, network and system architectures, data and

network communications technologies and protocols, server architectures and network operating systems, network security, and network and system administration. Additional topics covered that impact network design and management include network management tools and applications, wireless network architectures, interoperability, cloud computing, and virtualization.

IT 460 System Administration 3 credits

Prerequisite: IT 361 Computer Organization and Operating Systems, or similar course work.

This course provides learners with the knowledge and hands-on skills necessary to administer systems and its resources. Topics covered include directory services, user account management, file and print services, load balancing, security and user/client administration. Students will setup and manage a fully functioning computer network of systems. Furthermore, through hands-on (labs) assignments, students deal with challenges designed to help them install, configure and manage servers.

IT 460 prepares the student for the CompTIA Linux+ certification exam.

IT 495 Integrated Technology Assessment BIX 3 credits

Prerequisite: Enrollment in this course requires that you have completed all the other courses in this entire degree program, including the concentration courses Welcome to the capstone course for the Bachelor of Science in Information Technology program. Your key undertaking in this course will be to complete an information technology group project (including a basic website prototype) that demonstrates information technology system integration as well as your ability to fulfill all outcomes of this degree program.

You will also be tested on your knowledge of information technology fundamentals and practices spanning programming, information management, system administration and maintenance, operating systems and computer architecture, data communications and networking, human-computer interaction, and web systems and technologies—to ensure that you can meet the needs of industry as you venture forth in your career.

LA 298 Associate Degree Capstone 3 credits

Prerequisites: Completion of Written English, Ethics, and Information Literacy requirements. Students must be within 12 credits of degree completion and obtain advisor approval.

The Associate Degree Capstone is a culminating and reflective experience based upon what the student has learned in her or his program. The course is focused on using critical thinking skills to analyze issues around diversity and ethics. Students will have the opportunity to demonstrate their communication skills by creating a PowerPoint presentation and a final project.

The course content is centered upon the four Liberal Arts degree outcomes: critical thinking, communication, diversity, and ethics. In this course students will broaden their understanding of these concepts, apply them in assignments, and reflect on how these concepts have shaped students' college learning.

LA 498 Liberal Arts Capstone 3 credits

Prerequisites: Completion of Written English, Ethics, and Information Literacy. Students must be within 15 credits of degree completion and obtain advisor approval.

"Education is the most powerful weapon which you can use to change the world," argued Nelson Mandela. So how are you going to change the world? In this culminating course for students in the Bachelor's in Liberal Arts degree program, you will think critically about our current and future world. To demonstrate your achievement of the program outcomes, you will complete an independent research paper, group project, and reflective journal. Together, we will apply the skills and knowledge we have built on our educational journeys to build a better world.

LA 498HIS History Capstone 3 credits

Prerequisites: INL, WER, Ethics Requirement, and most of the history courses in the major. Students must be within 15 credits of degree completion and obtain advisor approval.

This course is a culminating experience for students in history. As a capstone, this course is designed to bring together your cumulative knowledge and skills from your history program. You will question and

consider: what are the fundamental skills of the historical discipline and how can they be applied to better understand the past, present, and your future goals? How does a historian think, gather evidence, interpret and contextualize the past, and communicate to diverse audiences? You will also examine historical methodology and the concept of historiography through a research project.

LA 498NS Natural Science Capstone 3 credits

Prerequisites: Completion of INL, WER, the SLA Ethics course requirement and at least 12 upper level credits in the Natural Sciences. Students must be within 15 credits of degree completion.

This course is the culminating experience for students completing a major in Natural Sciences. A senior level course designed for advanced students and working professionals who are seeking to tie it all together. The course stretches across the natural science fields to apply multiple theories and research approaches to current events from the perspective of a variety of disciplines, including but not limited to Geology, Chemistry, Physics and Biology. Students will use their critical thinking skills along with oral and written communication skills while reviewing and analyzing ethical questions and the concepts of diversity across the natural science disciplines. Through a mixture of discussions, presentations and written analysis, students apply their previous learning in new ways both analyzing and synthesizing new perspectives on their learning. This a reading and writing intense course that should serve as the culmination of the students' work at the Bachelor's degree level.

This is an intense eight-week course requiring significant research and writing from the student.

LA 498PSY Psychology Capstone

Prerequisites: Completion of Written English, Information Literacy, and Ethics requirements, 12 upper level credits in psychology (including PSY 305 Research Methods and PSY 440 History and Systems), students must be within 15 credits of degree completion.

This is a competency-based, senior level course designed for advanced students and working professionals seeking to complete their bachelor's

degree in psychology. Course content focuses on demonstrating the competencies associated with the psychology degree program student learning outcomes. Through a mixture of discussions, reflective writing, and multimedia presentations, students apply knowledge, skills, and abilities to showcase their learning and interests. This course requires students to research and connect psychological theory to real-world problems, as students think deeply about their academic and career goals.

LA 498SS Social Science Capstone 3 credits

Prerequisites: Completion of INL, WER, Ethics Requirement, and 12 upper level credits in the Social Sciences. Students must be within 15 credits of degree completion and obtain advisor approval.

This course is the culminating experience for students completing a major in Social Sciences. This is a senior-level course designed for advanced students and working professionals who are seeking to make important connections among social science discipline areas. The course applies social science theory and best practices of evidence analysis to current events and reviews the theoretical foundations of the economics, political science and sociology disciplines. Students will evaluate the usefulness of these disciplines in analyzing social problems, and apply them to specific social policy dilemmas. Through a mixture of discussions and written analyses, students will review major theories, organize, and relate theoretical principles to evidence about real-world problems and gain experience analyzing decision making challenges that attend important social policy subjects.

MAT 101 Mathematics for Everyday Life 3 credits

Prerequisite: none

The goal of this course is to help students develop mathematical reasoning and problem solving skills that will serve them well in their lives both in and out of school. Topics will include the important real-world applications of measurement units, managing money, statistics in the media, the mathematics of voting, and mathematics in the arts and nature. Providing correct solutions to routine problems is not the goal; more important

is the ability to communicate effectively about mathematical reasoning and to solve realistic, practical problems both collaboratively with other students and individually.

MAT 101 is a survey course introducing the student to a variety of mathematical topics. It does not prepare a student for future courses that require a knowledge of algebra (e.g. Precalculus or Statistics).

MAT 105 Essential Algebra and Statistics

3 credits

Prerequisite: none

This course gives an introduction to algebraic concepts, probability, and statistics, with an emphasis on ways these concepts apply in everyday life. Each course module will contain a review of necessary algebraic concepts and examples of their application to probability and statistics. Mastery of these concepts will prepare you to use and understand statistical concepts as they appear in everyday life and many career fields, and will lay the foundation for more advanced statistics courses.

MAT 105 is a preparatory course and does not satisfy the statistics core requirement for any degree program at Excelsior University.

MAT 114 Intermediate Algebra

3 credits

Suggested Prerequisite: Knowledge of Elementary Algebra.

This course covers an intermediate level of algebra in order to prepare students for subsequent courses in mathematics. Major topics include real numbers and algebraic expressions, equations and inequalities, functions and graphs, systems of equations and inequalities, polynomial expressions and functions, rational and radical expressions, and quadratic equations and functions.

MAT 116 Precalculus Algebra

3 credits

Suggested prerequisites: MAT 114 Intermediate Algebra, or equivalent.

Precalculus Algebra is designed to serve as a preparatory course for science, technology, and other majors who will go on to take Calculus. Major topics in this course include Functions

and Graphs; Polynomial and Rational Functions; Modeling; Systems of Equations and Inequalities; Exponential and Logarithmic Functions; Sequences and Series.

This course replaces MAT 117 and is cross-listed with Excelsior University Examination MATx116. Credit for only one of these courses or exams will be applied toward graduation.

MAT 118 Trigonometry

3 credits

Prerequisite: MAT 116 PreCalculus Algebra, or equivalent, or taken concurrently (with permission).

Trigonometry is designed to serve as a preparatory course for students who will go on to take Calculus or Applied Technical courses. This course emphasizes concepts fundamental to the study of calculus including applications relevant to engineering and technology. Major topics include Trigonometric Functions, Inverse Functions and their Graphs; Right and Oblique Triangle Trigonometry; Polar Coordinates; Vectors; Applications of Trigonometry.

MAT 201 Statistics

3 credits

Suggested Prerequisites: MAT 114 Intermediate Algebra, or MAT 105 Essential Algebra and Statistics.

This course develops the statistical skills of collecting, organizing, summarizing, and analyzing information to draw conclusions or answer questions. Major topics include descriptive statistics, frequency distributions, probability, binomial and normal distributions, statistical inference, linear regression, and correlation.

MAT 201 duplicates BUS 231 Business Data Literacy, BUS 233 Business Statistics, and MAT 215 Statistics for Health Care Professionals. Credit in only one of these courses/exams will be applied toward graduation.

MAT 205 Discrete Structures

3 Credits

Prerequisites: MAT 220 Calculus I, MAT 201 Statistics or BUS 231 Business Data Literacy

This course provides the mathematical foundations for information technology and other technology fields. Topics covered in this course include logic, relations, functions, recursion,

induction, set theory, patterns of inference, elementary combinatorics, algorithm complexity, and graph theory. Applications of discrete structures such as social network analysis and/or language modeling are also introduced and discussed in this course.

MAT 215 Statistics for Health Care Professionals

3 credits

Suggested Prerequisite: MAT 114 *Intermediate Algebra*, or MAT 105 *Essential Algebra and Statistics*.

This course is designed to provide students with the statistical tools that are appropriate for health care professionals in evidence-based practice. Topics include descriptive statistics for qualitative and quantitative data (both univariate and bivariate), basic probability and normal distributions, and statistical inference: estimation, hypothesis tests for means and proportions, comparison of two or more means, and chi-square tests.

MAT 215 duplicates MAT 201 Statistics, BUS 231 Business Data Literacy, and BUS 233 Business Statistics. Credit in only one of these courses/exams will be applied toward graduation.

MAT 220 Calculus I

4 credits

Prerequisites: MAT 116 *Precalculus Algebra*, MAT 118 *Trigonometry* or equivalent.

This course provides students with an introduction to the basic concepts of differential and integral calculus. Topics covered include concepts of function; limits and continuity; differentiation rules; application to rates, approximations, and extremum problems; definite and indefinite integration; the fundamental theorem of calculus; applications of integration including area and arc length; techniques of integration; approximation of definite integrals; improper integrals and L'Hôpital's rule.

MAT 220 Calculus II

4 credits

Prerequisites: MAT 220 *Calculus I* or equivalent

Topics include techniques of integration, sequences, series, conics, parametric equations, vectors in space, and a brief introduction to ordinary differential equations.

MET 220 Statics

3 Credits

Prerequisites: MET 210 *Introduction to Engineering Analysis*

This course introduces engineering mechanics in static systems. You will apply basic principles of physics to the analysis of systems experiencing some combination of forces and torques, with an eye toward engineering applications. Statics deals with two and three-dimensional systems of particles and rigid bodies in static equilibrium. In a general sense, each principle is applied first to a particle, then to a rigid body subjected to a coplanar system of forces, and finally, to three-dimensional force systems acting on a rigid body. Special attention devoted to forces in structures such as truss, frames, and machines. After building a fundamental understanding of these topics, we will explore analysis of internal forces developed in structural members. Vector algebra will be used throughout.

The subject is called "statics" because it is concerned with particles and rigid bodies that are in equilibrium; these will usually be stationary (i.e. static).

MIL 230 United States Military History

3 credits

Prerequisite: none

To better understand the current and future challenges of new and dangerous warfare tactics, this course will describe and analyze military strategy as well as the causes of war throughout the evolution of the United States Military. Additionally, it will examine how the military has confronted social changes and diversity and analyze the ethical challenges of a new operational environment.

This course replaces MIL 130. Credit for only one of these courses will be applied toward graduation.

MIL 301 Great Military Leaders

3 credits

Prerequisite: none

Great Military Leaders presents an overview of military leadership and great military leaders throughout history who have left a mark of excellence in world history. The course examines the

qualities of military leaders and analyzes specific leadership traits that contributed to military leaders' excellence in leadership. Through this analysis, the students will be able to compare and contrast leadership throughout history and isolate those leadership traits and qualities that make a great leader and then apply those traits and qualities to new situations.

MIL 312 Military Leadership: Skills for the 21st Century 3 credits

Prerequisite: none

This course introduces undergraduate students to contemporary military leadership through a focus on decision-making, ethical leadership, an examination of the elements of national power in the 21st Century, and analysis of challenges and opportunities in a dynamic global context. The course will expose students to the theories and application of leadership in the military. Throughout this course, students will gain an understanding of Military Leadership, Military History, and the global challenges of the military today through research and analytical writing.

MIL 498 Military Studies Capstone 3 credits

Prerequisites: The capstone course is restricted to students majoring in Military Leadership with senior standing. Students must have completed all other required courses for the major, completed both the information literacy and written English requirements. Students must also be within 15 credits of degree completion and obtain advisor approval to register for this course.

The Military Leadership Capstone exposes students to relevant theories of military leadership, their applications to military operations, and leaders throughout history. By examining military leadership within the context of historical and political settings, students will develop a comprehensive knowledge of traits and characteristics that will contribute to their own leadership abilities. This course addresses all aspects of military leadership, how it is applied, what worked and what failed and why, and explores the diplomatic, economic, political, and social aspects of conflict and war. Students will improve their ability to think critically, and learn to become agile and adaptive leaders and decision makers.

MUS 210 History of Rock and Roll 3 credits

Prerequisite: none

This course provides an introduction to the genre of rock and roll, its form and derivations, and rock and roll artists and bands spanning the years 1955 to 1970. Through reading and numerous listening examples, this course will look at the state of American popular music after World War II, the inception of rock and roll in the 1950s, the growth of youth culture in America, and the growing popularity of rock and roll through radio, film, and television.

NS 110 Science in Today's World 3 credits

Prerequisite: none

The purpose of this course is to give the student an overview of current and emerging trends in science and technology so that s/he will be able to make informed decisions and be an informed consumer. The course will introduce the scientific method and terminology used in reporting scientific results. A survey of current topical science issues will be covered as examples. This course will also prepare the student to read accounts about scientific, technological, and medical advances in the press and assess the scientific conclusions presented.

NS 115 Introduction to Astronomy 3 credits

Prerequisite: none

This is an introduction to modern astronomy. The topic sequencing allows, after a brief look at a few key physical principles and the history of their development, a look at the cosmos on an increasingly large scale. The course begins with a detailed study of our solar system as well as a discussion of the many extra-solar star systems that are being discovered almost daily. Examined next are the nature of stars, how they are born, live, and die, and how they constitute the fundamental building blocks of one of the most important of cosmic structures, the galaxy. The study of galaxy formation and evolution leads to a brief discussion of current research in cosmology, including the as-of-yet undiscovered nature of dark energy and dark matter.

This course replaces PHYS 110. Credit for only one of these courses will be applied toward graduation.

NS 120 Weather and Climate

3 credits

Prerequisite: none

This is a course designed to provide the student with a basic understanding of the dynamic, thermodynamic, and kinematic principles that control atmospheric processes and form daily and climatic weather events. The significance of atmospheric composition, global circulation, and energy and moisture transfer will be covered, as well as familiarity with standard weather observations. These foundations will allow the student to engage in interactive discussions, using critical thinking, to describe basic meteorological processes and comprehend safety needs during severe weather. A view into the intricacies of weather forecasting, descriptions of regional climates, and potential impacts of global climate change will be included.

**NS 130 Are We Alone?
Life in the Universe**

3 credits

Prerequisite: The student should be comfortable performing simple algebraic calculations using calculators or spreadsheet software.

In this course students examine the “Are We Alone?” question from the perspectives of Astronomy, Chemistry, and Biology. By the end of this course, students arrive at personal estimates of how many alien civilizations exist in our galaxy. Students will also conceptualize what one of these alien species might be like and how they might interact with their environment (including how they might seek to communicate with us). Science as a body of knowledge is necessary for students to do any of this meaningfully. And rather than just receiving knowledge, students are also going to learn about how astronomical data is collected, analyzed, and interpreted. They are going to analyze and interpret some of this data themselves. Not only should students gain confidence in the body of knowledge, but also a better understanding of why that knowledge is always subject to revision when new data becomes available.

**NUC 210 Health Physics
and Radiation Protection**

3 credits

Prerequisites: PHYS 201, PHYS 203, PHYS 204, MAT 220 and MAT 221, CHE 101 with Lab or equivalent; Basic Computer Literacy, Computer Applications.

This course provides a fundamental grounding in the theory and principles of radiation protection relevant to nuclear power plant operations. The course covers the following broad topics: radioactivity and radiation interactions, biological effects of ionizing radiation, radiological approximations and calculations, radiation sources and detectors, radiation protection standards and 10 CFR 20, external and internal dosimetry, workplace and environmental monitoring, radiation protection principles, and handling radiological emergencies.

NUC 211 Radiation Measurement Lab 1 credit

Prerequisite: NUC 210 Health Physics and Radiation Protection, or equivalent; NUC 210 may be taken concurrently with this course.

This course provides experience in the use of instruments for the detection and analysis of radiation. Instruments included in the course are gas-filled detectors, scintillation counters, semiconductor detectors, radiation spectroscopy, neutron detectors, dosimetry, external dosimetry, and counting statistics.

NUC 240 Atomic and Nuclear Physics 4 credits

Prerequisites: NUC 210 Health Physics and Radiation Protection or equivalent

Required Knowledge: To comprehend the course materials, the students need to have the following knowledge: Algebra, trigonometry, and basics of differential calculus, integral calculus, and differential equations; college level Physics I, Physics II, Physics I or Physics II Lab, and Chemistry with Lab; health physics radiation protection, and radiation measurements; basic computer literacy for technical problem solving, including installing software, naming files, transferring files, and navigating the internet; computer applications, including use of Microsoft Office (Word, Excel, PowerPoint, and Project).

This course will provide a foundational introduction to Atomic and Nuclear physics, including key components of modern and quantum physics. Successful completion of this course will help you

complete later coursework in this curriculum.

This course covers the structure of the atom and of the nucleus, atomic and nuclear energy states, the sources of radioactivity, the detection and measurement of the various types of radiation, nuclear reactions and neutron interactions, nuclear fission and fusion and the application of these concepts. These topics are discussed with focus on practical applications. This course will enhance learning in later topics in reactor physics, radiation safety, electronics, materials science, and chemistry.

NUC 245 Thermodynamics 3 credits

Prerequisites: PHYS 201 Physics I, PHYS 202 Physics I Laboratory, and MAT 221 Calculus II or equivalent.

This course provides students with an understanding of thermodynamic and fluid flow principles, and how thermodynamics principles apply to systems, including the importance of understanding thermodynamic principles for nuclear power plant operations. Topics include thermodynamic properties, measurements, systems, and processes, phase change, property diagrams, laws of thermodynamics, compression processes, heat transfer and heat exchange, boiling heat transfer, heat generation, and decay heat, continuity equation, types of flow, Bernoulli equation, and pumps.

This course contains laboratory work based on a Generic Pressurized Water Reactor (PWR) simulator including introduction to PWR simulator, circulating water system, steam generator heat balance, main and reheat system, overall plant efficiency, flux distribution, and decay heat production, and load rejection. This web-based simulator is based on a real operating unit that has been completely tested and verified to perform plant maneuvers in a realistic and accurate manner.

This course utilizes specific technologies that may not be accessible to individuals with disabilities. If you have any questions or difficulties, please contact your instructor.

This course contains laboratory work based on a Generic Pressurized Water Reactor (PWR) simulator.

NUC 246 Thermal Measurement Laboratory

Prerequisites: PHYS 201 Physics I, PHYS 202 PHYS Physics II, MAT 221 Calculus II.

In order to comprehend the course materials, students need to have the following knowledge: General Physics and Fundamentals of Differential and Integral Calculus.

This laboratory course provides students with an understanding of thermodynamic principles and how thermodynamics principles apply to systems, including the importance of understanding thermodynamic principles for nuclear power plant operations. This course contains laboratory work based on a Generic Pressurized Water Reactor (PWR) simulator including Introduction to PWR Simulator, Circulating Water System, Steam Generator Heat Balance, Main and Reheat System, Overall Plant Efficiency, Flux Distribution, Decay Heat Production, and Load Rejection.

NUC 250 Introduction to Heat Transfer and Fluid Mechanics 3 credits

Prerequisites: PHYS 201 Physics I, PHYS 202 Physics I Laboratory, and MAT 116 Precalculus Algebra.

This course provides a fundamental grounding in the principles of heat, heat transfer, and fluid mechanics, as they apply to power plant operation. While designed to meet the requirements of the Nuclear Uniform Curriculum Program, specifically Section 1.1.5 *Heat Transfer and Fluid Flow of ACAD 08-006 for Non-Licensed Nuclear Operators*, this course has broad applicability for anyone interested in power plant technology, regardless of the heat source used. The course covers the following broad topics: Temperature, its measurement, and pressure-temperature relationships in power plant steam and water systems; heat, its various forms, mechanisms and mechanics of heat transfer, and the related power plant components used to transfer heat; and fluid mechanics as they relate to heat and heat transport in power plant steam systems and power plant water systems.

NUC 255 Electrical Theory 3 credits

Prerequisites: PHYS 203 Physics II, PHYS 204 Physics II Laboratory, MAT 221 Calculus II, and IT 221 Introduction to Computers.

s is a basic course covering the theory of electrical circuits and electronic control components used in nuclear and commercial power plants: AC and DC current, voltage, capacitance, inductance, energy, power, Kirchhoff's laws, linear voltage-current characteristics, digital logic gates, voltage regulation and amplification using diodes, transistors, and operational amplifiers, transformers, DC and AC motor and generator operations, and battery construction, theory, and operation. This course utilizes an online electronic circuit simulator called Falstad. This circuit simulator is a wonderful way to learn about circuits, test innovative designs, or troubleshoot a design.

NUC 260 Power Plant Components 3 credits

Prerequisites: NUC 245 Thermodynamics and NUC 250 Introduction to Heat Transfer and Fluid Mechanics.

In this course, you will learn the theory, design of components, and application of mechanical and electrical components such as (but not limited to): heat exchangers, valves and actuators, pumps, turbines, diesel engines, electrical motors, transformers, instrument controls, and air compressors. These topics are discussed focusing on practical applications in power plants.

To assist you in your learning experience, Excelsior University has purchased access to WSC's Generic Pressurized Water Reactor (PWR) simulator. This web-based simulator is based on a real operating unit that has been completely tested and verified to perform plant maneuvers in a realistic and accurate manner. The simulator will strengthen your components and system interrelation knowledge.

NUC 271 Fundamentals of Reactor Safety 3 credits

Prerequisite: NUC 240 Atomic and Nuclear Physics

The course will provide you with an overview of commercial nuclear reactor safety design topics, including basic concepts relating to regulatory

requirements, reactor plant safety analysis, reactor protection systems, plant procedural structure, and emergency planning. Additionally, the course will explore significant industry events, including those at Three Mile Island, Chernobyl, and Fukushima, as well as the impact of the 9/11 terrorism event.

NUC 280 Leading Change in the Nuclear Industry 3 credits

Prerequisite: BUS 311 Organizational Behavior, or equivalent.

This course provides learners with the theory and knowledge necessary to lead change in the nuclear industry. Topics include leadership theories associated with organizational change, visionary leadership, changing behaviors, resistance to change, and conflict. Furthermore, discussions will focus on change management processes relevant to the nuclear industry to ensure safe and efficient operation of nuclear facilities.

NUC 285 Leadership Communications in the Nuclear Industry 3 credits

Prerequisite: none

This course provides the knowledge and skills to formulate strategies for effectively communicating with stakeholders in the nuclear industry. Learners will be able to identify appropriate media and methods of communication as well as develop feedback and monitoring strategies to ensure that the communications are effective. Additionally, the learners analyze communication strategies and provide an oral presentation of a proposed strategy.

NUC 323 Material Science 3 credits

Prerequisites: CHE 101 General Chemistry I, PHYS 203 Physics II, and MAT 221 Calculus II.

This course is a study of how materials are used in nuclear engineering applications. Topics include basic nuclear plant operation overview, atomic bonding, crystalline and non-crystalline structures, diffusion, phase diagrams, mechanical and thermal behavior, failure analysis and prevention, structural materials, ceramics, corrosion, radiation effects on materials, materials commonly used in

reactor core and nuclear plant design, and material problems associated with reactor core operation.

NUC 330 Reactor Core Fundamentals 3 credits

Prerequisites: NUC 271 *Fundamentals of Reactor Safety*, and NUC 323 *Material Science*, or equivalent.

This course is an introduction to the theory behind operational neutron chain reaction systems. Specific topics in the course include neutron cross sections, fast, epithermal, and thermal neutron fluxes, reaction rates, the fission process, neutron production, neutron multiplication, the six-factor formula, reactivity, subcritical multiplication, prompt and delayed neutron fractions, reactor period, reactivity coefficients, control rod worth, and fission product poisons.

NUC 350 Plant Systems Overview 3 credits

Prerequisites: NUC 271 *Fundamentals of Reactor Safety*, and NUC 323 *Material Science*, or equivalent

This course provides an overview of the design, layout, and function of major systems associated with the two nuclear power plant designs currently used for U.S. power production: Pressurized water reactor (PWR) and boiling water reactor (BWR). The course is designed to examine a typical nuclear power plant, system by system, focusing on major system components, controls, and design features. Emphasis is also placed on plant system interconnections and system functions relative to nuclear safety. Web-based PWR and BWR simulation learning tools are utilized to apply and reinforce course material through dynamic learning activities.

NUC 360 Nuclear Leadership— Risk Management/Leadership Courage 3 credits

Prerequisites: NUC 280 *Leading Change in the Nuclear Industry*, and NUC 285 *Leadership Communication in the Nuclear Industry*.

This course covers the knowledge and skills necessary to integrate leadership into operational decisions associated with nuclear power plants. Students will be able to develop teams and integrate them into the framework of a commercial nuclear business. This will include developing

and demonstrating appropriate business acumen as well as demonstrating an understanding of risk in decision making processes. In addition, the course will focus on helping students develop leadership styles appropriate to improving the effectiveness of their future organizations.

NUC 495 Integrated Technology Assessment BNX 3 credits

Prerequisites: Complete core requirements for the Bachelor of Science in Nuclear Engineering Technology degree program.

This capstone course integrates all fields of nuclear engineering technology. Students will draw on their knowledge of nuclear engineering technology and competencies to analyze reactor plant scenarios. The purpose of the course is to integrate the learning achieved in individual nuclear engineering technology courses taken, evaluated industry training, and naval nuclear power training to earn a nuclear engineering technology degree. The knowledge and competencies acquired in natural sciences, health physics and radiation protection, thermodynamics, heat transfer and fluid flows, reactor core fundamentals, and plant systems overview will be utilized to study the principles in nuclear engineering technology. Students will participate in a reactor plant simulation experience that requires considering multiple theoretical concepts and applying those concepts to plant applications. An individual capstone project and a watch team capstone project will be developed and presented to the instructor.

PBH 303 Special Issues in Public Health 3 credits

Prerequisite: none

Public health is all around us and affects our lives daily, from the food we eat, the air we breathe, the water we drink, how we drive and where we live. This course will introduce students to special issues in public health by providing an overview of the issue and its historical perspectives leading up to modern applications and challenges. A population-based frame of reference to the control of disease and prevention of disability in the realm of chronic diseases, infectious diseases and environmental health will be provided. Tools

(including informatics and current health policies and laws) essential to the practice of public health will be described. The course will address disparities and inequities in health of vulnerable populations. Finally, an overview of the organizational functions of health systems, and healthcare costs and financing will be presented.

**PBH 306 Our Environment, Our Health:
An Introduction to Environmental Health** 3 credits

Prerequisite: none

This course is designed to introduce students to the basic principles of environmental health and the history and accomplishments of the field. During this course, students will explore the impact of environmental exposures on human health and the impact that humans have on the environment. Students will learn about environmental health issues and determinants of health impacting the population on a global scale. These issues include the human health effects of exposure to physical, chemical, and biological agents, the effects of indoor and outdoor pollution, the impact of climate change on human health, the global environmental burden of disease, and health equity.

**PBH 311 Health Disparities:
Causes and Consequences** 3 credits

Prerequisite: none

The need for a public health workforce trained in equity-based approaches to social determinants of health has increased and is driven by a significant body of literature. In this course students will learn principles and concepts of health equity and social determinants of health and relevant models and frameworks. Students will critically examine health disparities in the context of health equity.

**PBH 320 Substance Abuse—Impact
on Individual, Family, Community** 3 credits

Prerequisite: none

Alcohol/Substance abuse is a major public health issue. This course introduces students to the impact of alcohol/substance abuse on the individual, family and society. During the course, students will be required to differentiate between

abuse and dependence, identify negative consequences, and discuss treatment issues. Students will evaluate various treatment models and settings and develop an awareness of which models are appropriate given the readiness of an individual to engage in treatment. Through the course work, students will have the opportunity to see the progression of the consequences of substance abuse in a real family from the perspective of the individual, the family and society. Students will develop a greater understanding of the public health concern around substance abuse.

PBH 321 Introduction to Epidemiology 3 credits

Prerequisite: none

Epidemiology is the study of the distribution and determinants of health and illness at the population level, including the application of epidemiology in controlling the issue or illness. During this course, students are introduced to the basic concepts, principles and application of epidemiology to aid in understanding procedures for studying, preventing, and controlling diseases, environmental health hazards, and accidents. Current real-world public health scenarios will be discussed and applied to the material.

PBH 323 Principles of Public Health 3 credits

Prerequisite: none

This course introduces students to key concepts, and principles in public health. Students will learn about the history of public health and the important role and responsibilities public health practitioners have in improving quality of life for populations. Topics covered in this course include, but are not limited to, the built environment, chronic and infectious diseases, health disparities, ethics, and preparedness.

**PBH 346 Post Traumatic
Stress Disorder: A Gathering Storm** 3 credits

Suggested Prerequisite: PSY 101 Introduction to Psychology (recommended)

This course will explore the causes of post-traumatic stress disorder (PTSD) and the effects that it has on individuals, families, communities, and the global society. You will learn about the history, root causes, and prevalence of PTSD; the

bio-neuro-psychosocial impact of trauma on the health of individuals and families; the influences of culture and resilience; and current best practices and treatments available to survivors. You will study PTSD as it relates to different forms of trauma resulting from natural and man-made disasters, global health threats (pandemics), military service, interpersonal violence, and gun trauma. Lastly, you will learn how communities can work towards healing and prevention.

This course was cross-listed with MIL 346. Credit for only one of these courses will be applied toward graduation.

PBH 421 Global Health 3 credits

Prerequisite: none

This course provides a comprehensive overview of community-level, societal, and geopolitical factors that influence global health in developing countries. Students will explore interdisciplinary perspectives of global health regarding health care systems, environmental health and disasters, trends in communicable and non-communicable diseases, and cutting-edge improvements in global health interventions. Students will examine similarities and contrasts across cultures and environment, with attention to issues of health equity and shifting ideologies in global health.

This course was cross-listed with SOC 421. Credit for only one of these courses will be applied toward graduation.

PBH 427 Planning and Evaluating Public Health Programs 3 credits

Program planning and evaluation are essential competencies of public health practice. You will develop an understanding of cultural competence in the role of health promotion and education when addressing health challenges that affect culturally and racially diverse communities. You will learn the practical aspects of program planning as well as acquire a detailed understanding of evaluation methodology used in public health programs and policy interventions. You will learn to apply the critical principles of program planning and evaluation

methodology as they relate to the practice of public health.

PBH 468 Public Health Capstone 5 credits

Prerequisites: Students must have completed all other requirements of the professional and additional credit components degree including the written English requirement, and be within 9 credits of completing the arts and sciences component. This capstone course requires students to integrate academic work, knowledge, skills and experiential learning to validate comprehension of foundational public health principles. The capstone is designed to guide student development of a multi-component project that demonstrates understanding of basic elements of public health practice and research. Students will be evaluated on their ability to apply the scientific method of examination to a public health issue.

PHYS 201 Physics I 3 credits

Prerequisites: MAT 116 PreCalculus Algebra, and MAT 118 Trigonometry, or equivalent.

This is the first course of a 2-course, algebra-based Physics sequence. The material covered in the course is divided into four conceptual areas of Physics: 1) Forces and Motion, 2) Conservation Laws, 3) Properties of Matter, and 4) Oscillations and Waves. Some of the mathematics to be applied in the course will be reviewed as needed. This course is recommended for technical coursework and careers.

PHYS 201 duplicates the Excelsior University Examination PHYx140 Physics. Students will receive credit for either the course or the examination, as both will not be applied toward graduation.

PHYS 202 Physics I Laboratory 1 credit

Suggested Prerequisite: PHYS 201 Physics I or equivalent first, or taken concurrently (strongly recommended).

The course covers a wide range of basic topics in Physics I in a simulated laboratory setting. The activities are chosen to give students the opportunity to experiment, observe, measure, record,

discover, and understand the close relationship between the experimental observations and principles under study.

PHYS 203 Physics II 3 credits

Prerequisite: PHYS 201 Physics I, or equivalent.

This is the second course of a 2-course, algebra-based Physics sequence. The material covered in the course is divided into three conceptual areas of Physics:

1. Electricity and Magnetism,
2. Optics, and
3. Modern Physics.

Some of the mathematics to be applied in the course will be reviewed as needed. This course is recommended for technical coursework and careers.

PHYS 203 duplicates the Excelsior University Examination PHYx140 Physics. Students will receive credit for either the course or the examination, as both will not be applied toward graduation.

PHYS 204 Physics II Laboratory 1 credit

Prerequisite (Strongly Recommended): PHYS 203 Physics II or equivalent, or taken concurrently.

The course covers a wide range of basic topics in Physics II in a simulated laboratory setting. The activities are chosen to give students the opportunity to experiment, observe, measure, record, discover, and understand the close relationship between the experimental observations and principles under study.

POL 320 The Geopolitics of Energy and Global Climate Change 3 credits

Prerequisite: none

Energy consumption is the lifeblood of the US and global economy, yet we seldom investigate the costs involved in making a gallon of gas cheaper than a gallon of milk. When you fill up your tank, have you ever wondered where the fuel comes from or what it really takes to make this necessary energy source so readily available? When you hear about costly wars, international rivalry, or domestic strife in energy-rich regions like Russia, the South China Sea, Arctic, or the

Middle East, do you question how these might be related? Beyond the near constant rivalry over energy, even alternative energy technologies used in renewables, global climate change looms as an almost incalculable cost. In this course you develop a geopolitical lens onto energy and climate change by looking at powerful state, military and corporate actors, each pursuing its own, often conflicting, objectives. You examine how these actors influence geopolitics and climate change, such as with the homeland and national security implications of increased resource rivalry, sea levels, storm intensities, Arctic melt and drought. In this course you examine the political realities of energy today and the possibilities of different, more sustainable tomorrows.

POL 351 War and Peace after the Cold War 3 credits

Prerequisite: none

This course analyzes key actors and trends in international relations since the end of the Cold War in 1989–1991. The course explores how cooperation accompanying the end of the Cold War faded into an ‘Age of Terror’ and great power rivalry. Students look at conflict and cooperation throughout the post-Cold War period and examine important events, including: the end of the Cold War; the Balkans Wars; the rise of the interdependent global economy; Islamic Fundamentalism and the War on Terror; Russia-China-US competition emerging since 2008; and, the fate of American dominance of world politics. The course ends with the contemporary debate over America’s role as global leader amidst challenges from ascending states like China and non-state threats from terrorist groups and global health and climate dilemmas.

This course replaces POL 350. Credit for only one of these courses will be applied toward graduation.

PSY 101 Introduction to Psychology I 3 credits

Prerequisite: none

In this self-paced, instructor-led class, you’ll apply psychological principles and theory to your everyday life. In addition to foundational topics like psychology as a science, learning and

memory, human development, and consciousness, each student creates an individualized path through the course by choosing to study topics like stress and health, psychological disorders and therapy, and human sexuality. Concepts learned in this course can be applied in any career to better understand behavior, thought, and emotion.

This course uses a lower cost interactive webtext instead of textbooks.

This course duplicates PSYx101 Introduction to Psychology. Credit for only one of these will be applied toward graduation.

PSY 220 Psychology of Personality 3 credits

Suggested prerequisite: PSY 101 Introduction to Psychology, or equivalent.

This course provides an overview of personality psychology and related issues. Students will explore the history and systems of personality, analyze current theories and evidence associated with personality psychology, and learn how personality is assessed and researched. Learners examine individual differences, including the way gender, race, religion, and national origin impact personality development and expression. Special emphasis is placed on personality in the workplace to help learners identify careers appropriate for their personality and better understand the traits that are highly valued by employers.

This course uses a lower cost interactive webtext instead of textbooks.

This course duplicates PSYx101 Introduction to Psychology. Credit for only one of these will be applied toward graduation.

PSY 235 Lifespan Developmental Psychology 3 credits

Suggested prerequisite: PSY 101 Introduction to Psychology, or equivalent.

This course introduces developmental science and the concept of human development being a product of the interaction between each individual and the environment. This course examines

the development of learning, emotion, personality and cognition across the lifespan. Students will explore, analyze, and present theories and evidence associated with developmental science from conception through death. Concepts learned in this course can be applied to any career focusing on health or human services, and can help learners raise healthier children and live in more functional families.

This course uses a lower cost interactive webtext instead of textbooks.

This course duplicates PSYx210 Life Span Developmental Psychology. Credit for only one of these will be applied toward graduation.

PSY 280 Abnormal Psychology 3 credits

Suggested Prerequisite: PSY 101 Introduction to Psychology I, or equivalent.

In this course students will explore the history and models of abnormal behavior, analyze and present theories and empirical research associated with abnormal psychology, and discuss contemporary clinical assessment and treatment. Students will learn the characteristics of mental health diagnoses and use case studies to demonstrate synthesis of course material. Special attention is devoted to the impact of mental disorders on family, friends, coworkers, and the community. The concepts learned in this course can be applied to any career in which it is important to have insight into problematic behaviors.

This course uses a lower cost interactive webtext instead of textbooks.

This course duplicates PSYx310 Abnormal Psychology. Credit for only one of these will be applied toward graduation.

PSY 305 Research Methods

Suggested Prerequisite: Written English Requirement

During this course you will investigate how research is conducted in the social sciences. You will learn research methods and techniques that you are likely to come across in your professional and

personal lives. Throughout the course, you will have opportunities to apply the different research methods and techniques that you have learned. Lastly, you will leave the course with an understanding of research methods that will give you the knowledge and skills needed to gather, evaluate, and apply information and research findings.

PSY 330 Educational Psychology 3 credits

Suggested prerequisite: PSY 101 Introduction to Psychology I, or equivalent.

Are you interested in how people learn? Educational psychology is an applied field examining how learning occurs at all ages. Topics covered include learning and cognition, cognitive development, motivation to learn, classroom management, teacher-centered and learner-centered instruction, and various contexts in which learning occurs. Students will uncover evidence-based strategies for effective teaching, learning, and assessment as well as ways to create effective learning environments. Upon completion of this course, students will be able to apply their knowledge of educational psychology to any career that involves teaching or training.

PSY 340 Psychology of Learning 3 credits

Suggested prerequisite: PSY 101 Introduction to Psychology I, or equivalent.

What does it mean to “learn”? This course provides an overview of the major theories that explain the dynamics of behavior and learning in humans and animals. Topics include classical and operant conditioning, social learning, learning occurring through the media, memory, and forgetting. This course has a focus of making course concepts meaningful by helping students create connections between learning and career outcomes. The concepts learned in this course can be applied to any career in which it’s important to teach, influence, or change the behavior of self or others.

PSY 360 Social Psychology 3 credits

Suggested prerequisites: PSY 101 Introduction to Psychology I, or equivalent.

This course analyzes how people influence and are influenced by the real or imagined presence or others and how people interact with and relate to those around them. Topics include research in social psychology, social cognition, social perception and judgment, attitudes and attitude change, conformity and obedience, group behavior, attraction and intimate relationships, helping behavior, aggression, prejudice, and the application of social psychology to other fields including the legal system. The concepts learned in this course can be applied to all careers in which one works with and in teams, as well as work where it is important to influence or persuade others.

This course uses a lower cost interactive webtext instead of textbooks.

This course replaces PSY 320. Credit for only one of these courses will be applied toward graduation.

This course also duplicates the Excelsior University Examination PSYx365. Students will receive credit for either the course or the examination, as both will not be applied toward graduation.

PSY 362 Psychology of Human Sexuality 3 credits

Suggested prerequisite: PSY 101 Introduction to Psychology I, or equivalent.

Sexuality plays in a major role in each individual’s life throughout the lifespan. This course is a critical inquiry through the lenses of theory and research into the psychosocial and physiological aspects of sexuality. Topics include the psychology of love, intimacy and relationships, sexually transmitted infections, sexual assault, gender identity, sexual orientation, and sociocultural influences impacting sexuality. This course increases student knowledge, ability, and skill in thinking about and discussing human sexuality in different contexts. The concepts explored and practiced in this course can be applied to any career in the health or human services.

This course uses a lower cost interactive webtext instead of textbooks.

PSY 365 Psychology Of Diversity 3 credits

Suggested prerequisite: PSY 101 Intro to Psychology, or equivalent.

This course introduces students to a study of understanding how people think, feel, behave, and interact within diverse social contexts. Fully understanding the psychology of diversity requires consideration of the historical, political, educational, economic, and societal factors that influence psychological processes and people's responses to diversity. Students will study both differences and similarities that are at the intersections of gender, race, ethnicity, sexual orientation, weight, age, language, veteran status, and other factors. Readings, including recent journal articles, provide a greater understanding of diversity and the interrelationship between diversity and psychology, and an appreciation for the value of diversity. Students develop a better understanding of themselves and the world around them in an appreciation for a global society. The concepts learned in this course can be applied to any career in which it is valuable to have a better understanding of how to successfully leverage the benefits of diversity.

PSY 380 Biopsychology 3 credits

Suggested prerequisite: PSY 101 Introduction to Psychology I, or equivalent.

This course examines how neurons work individually and together to enable behavior, feelings, and thoughts. The structures and functions of the nervous system are examined to provide the biological bases of behavioral development, perception, learning, memory, cognition, motivation, language, sleep, and psychological disorders. The concepts learned in this course can be applied to any health science or human service career.

This course uses a lower cost interactive webtext instead of textbooks.

PSY 420 Human Motivation 3 credits

Suggested prerequisite: PSY 101 Introduction to Psychology I, or equivalent and at least one 300-level course in psychology.

Motivation can be thought of as what energizes and directs human behavior, and when studying

motivation, researchers attempt to ask to questions: a) What causes behavior?, and b). What causes behavior to vary in intensity? This course examines the major issues and theories that describe and explain human motivation across the globe. Individuals' behavior is examined from biological, psychological, and social perspectives. Students will analyze and integrate information from empirical research in psychology, in order to develop an understanding of motivation that is applicable to all individuals, including students' own lives. The concepts learned in this course can be applied to across a multitude of settings including leading, managing, counseling, nursing, teaching, and parenting.

PSY 440 History And Systems 3 credits

Suggested prerequisites: PSY 101 Introduction to Psychology I, and a minimum of two upper level psychology courses.

This course provides an overview of historical perspectives and theoretical developments that have contributed to the modern discipline of psychology throughout the world. In addition, students will study the terminology, theoretical systems and theorists. Major perspectives will be discussed, including Gestalt psychology, structuralism, behaviorism, psychoanalysis, and cognitive psychology. Students also study psychology of social change and the development of modern psychological branches and applications. The concepts learned in this course are particularly relevant for learners making connections across different fields and disciplines in psychology.

SOC 101 Introduction To Sociology 3 credits

Prerequisite: none

This course offers an introduction to the major concepts, theoretical perspectives, research methods, and scholars in sociology. Sociology is the scientific study of human social behavior, and this course examines several important sociological topics, including culture; socialization; deviance; social inequality; social institutions; and social change. This course also explores various socio-historical and socio-cultural frameworks across the world, promoting an appreciation for unique cultural identities and

institutions. Students will improve their analysis, understanding and interpretation of contemporary social issues in this rapidly changing world. This course encourages the practical understanding of sociology through exploration of students' everyday social world, and the often invisible and taken-for-granted social forces that shape it.

**SOC 110 Introduction To
Interdisciplinary Social Science** 3 credits

Prerequisite: none

This course introduces students to the study of the leading disciplines that make up the social sciences, particularly: economics, political science, psychology, and sociology. Students will explore the origins of the leading social science disciplines, important theories related to them, and begin the course-long project of comparing, contrasting, and combining their approaches to the primary, interdisciplinary subject of the course human behavior and organization. In learning about each discipline, students will gain a greater understanding of the common interests and research concerns of all social scientists. One of these common features among social scientists is the desire to identify patterns and solve problems. The nature and purpose of inquiry is common to all social sciences—how and why do individuals and groups behave as they do? Are causes of these behaviors possible to find, thus making it possible to solve their worst forms and consequences? The course emphasizes an interdisciplinary approach to the study of human behavior and organization, and shows the importance of using many different social science fields to understand and solve contemporary problems, whether at the local or global level of human society.

**SOC 217 Introduction To Counseling
And Case Management** 3 credits

Prerequisite: none

This course provides a foundation for students with an interest in counseling. Adopting a social science perspective to the essential role of counseling in a just and stable society, the course introduces students to the theory and methods of the counseling profession as well as the basic elements of case management. The course will

cover: theories of mental health diagnoses; therapeutic strategies; client/patient relationships; clinician ethics; and the organization of case files. Students will gain an invaluable and practical understanding of the counseling professions that will serve as a building block for developing further expertise in the counseling field within the human services profession.

**SOC 221 Why We Overeat:
Perspectives On Nutrition** 3 credits

Prerequisite: none

Have you ever wondered whether Americans are overweight, uniquely large relative to other populations in the world? Have you ever wanted to better understand your own eating habits and their causes and consequences? This course allows you to explore these questions and examine the personal and societal mechanisms underlying America's number one public health issue—the obesity epidemic. The course uses a social sciences lens to examine this public health crisis, and evaluates the individual and social factors that have resulted in the obesity epidemic. Students will explore why our nutritional needs no longer drive our dietary habits, and how this is exploited by the food industry. On an individual level, our appetites are stimulated by the highly addictive ingredients of sugar, fat, and salt that the food industry uses in low-priced products, while our food choices are often constrained by social and economic conditions. This results in a cycle of desire and consumption that ends with a nation of overeaters, both children and adults. Additionally, students evaluate societal factors influencing obesity, such as less emphasis on physical activity at school and at home, socioeconomic differences in diet and nutritional availability, the emergence of the internet and television as principal sources of entertainment etc.—all of which lead to an increasingly sedentary modern American lifestyle. Using these analyses and information, students will identify and discuss solutions to fight back against the food industry and end overeating.

This course was cross-listed with HSC 221. Credit for only one of these courses will be applied toward graduation.

SOC 230 Introduction to Human Services

3 credits

Prerequisite: none

The course introduces the principles, practices, and functions of the human services field and profession. Students will examine the history, current trends and policies related to the human services field, as well as key legal and ethical issues confronting human services professionals. The roles of the human services professional as well as the client will be defined and explored through detailed examination of the delivery of human services. Students will demonstrate their mastery of the history and background of the Human Services movement as well as the helping process itself by developing their own basic skills and intervention strategies. Students will then evaluate models of human service delivery and explore legal and ethical considerations in human services delivery. Students begin developing their competencies regarding the ethical standards of Human Services professionals as well as taking their first academic steps in this vital profession.

SOC 240 Addictions In America

3 credits

Prerequisite: none

This course helps students develop a greater understanding of a variety of addictions. Using an eco-systems approach, the addictive process and recovery will be studied, including the reciprocal interaction between addicted individuals and their various social systems. Students will examine substance abuse and behavioral compulsions in considerable detail with a focus on addiction in various populations as well as the business of drugs and prevention. Attention will be given to the biological and genetic factors in the etiology of addiction, family issues, and community responses. The consequences of addictions will be studied at the individual, family, and community levels. This course draws on current research in the field of addictions, and emphasizes critical analysis of contemporary controversies. This course builds on the foundations of health and human services

knowledge and skills to help students better understand this complex problem affecting American society.

This course was cross-listed with HSC 240. Credit for only one of these courses will be applied toward graduation.

SOC 247 Sports In American Society

3 credits

Prerequisite: none

Were sports an important part of your life as young person? Have you made sports part of how you raise your own children or interact with other youth in your life? In many ways sports are not just a metaphor for life, but are the very beating heart of our social life. Because sports are such an important part of US society, we seldom reflect on how or why it became such a force, why we engage it—as participants, fans, parents, or coaches—and how, even if we hate sports, it shapes so much of what goes on around us every day. In this course, we explore how sport dates back to the earliest of civilizations, always revealing and demonstrating various layers of identity and power within society. Simply put, sport is an institution that affects virtually all aspects of society. In this course, you will examine sports and the institution of sport from a variety of social science perspectives, including from historical, political, economic and sociological viewpoints. You will find the broader meaning that sport has for those who participate and those who watch.

SOC 318 Sociology of the Workplace

3 credits

Prerequisite: none

What is the meaning and nature of work in contemporary America? What does it mean to have a job compared to a career, and what individual and societal understandings do we attach to the “value of work”? This course explores these questions and examines the history of work, contemporary workplace issues, governmental statistics and social science theories used to study work. Whether the workplace refers to the home, the corporate office, or the factory floor, you will

learn the methods, theories and statistics used to study work, the workplace, and the relationships among the workplace, workers and the broader social world. You will address current and relevant issues related to work and the workplace, including: the meaning of work; discrimination and inequality; technology in the workplace; work and family; and globalization's effects on the American worker and workplace.

SOC 323 Deviant Behavior 3 credits

Suggested prerequisites: SOC 101 Introduction to Sociology, SOC 110 Introduction to Interdisciplinary Social Science, or equivalent.

This course will familiarize students with theories and applications of deviance, deviant behavior, and the social interactional process of being deviant. Students will read original texts and begin to understand the larger body of social interaction research in sociology and anthropology that has given rise to contemporary theories of deviance and learn to relate these concepts to other works in the social sciences and criminal justice. Students will also learn to apply the ideas from their theoretical reading to contemporary life and to their own personal and professional experiences. In addition to reading, writing and discussion, students will engage in a short field activity, during which time they will have the opportunity to make their own scientific observations of deviant behavior.

This course was cross listed with CJ 323, Credit for only one of these courses will be applied toward graduation.

TECH 180 Personal Protection Equipment for Electrical Work 3 credits

Prerequisite: none

This course will focus on providing students with the information necessary for selecting the correct personal protection equipment (PPE) to perform electrical work on various voltage rated systems/components. Students develop an understanding of the National Fire Protection Association (NFPA) Electric Code requirements regarding the identification and selection of PPE for performing electrical work. Additionally, students develop an understanding of arc-flash calculations and boundaries associated with performing work on systems/components varying in

voltage rating. A 3D simulation scenario assists the student in understanding PPE identification and selection for electrical work. This is a 3-credit course, requiring a minimum of 18 hours of course engagement each week in an 8-week term (refer to the *Credit Hours Calculation Policy* in the Student Handbook), Course engagement includes such activities as discussions, reading, study time, and assignments.

TECH 185 Blueprint Reading 3 credits

Prerequisite: none

Introduction to blueprint, facility floor plan diagrams, and blueprint components will be performed in class portion of the course. In simulation part of the course, the learner will read blueprints for lock out/tag out, utilize lock out/tag out practices, apply and verify lock out/tag outs.

Textbooks are generally not required for this course. However, course materials may update in a given term prior to registration opening. Students should therefore always review course material requirements and associated costs at our bookstore for the term in which they are registering.

TECH 200 Technical Writing 3 credits

Prerequisite: ENG 101 or equivalent course

In this 3-credit course, you will learn effective technical approaches in written and digital communications (email, presentations, technical reporting, and technical instructions). This course will introduce you to writing technical problem statements and you'll gain valuable practice in analyzing target audiences, conducting research, integrating evidence, and preparing written and visual documents. You will also explore a variety of activities to ensure you know how to employ proper voice, tone, and style for technical communication.

TECH 225 Applied Instrumentation and Control 3 credits

Prerequisites: Knowledge in Basic Algebra, Trigonometry, and AC/DC Circuits.

This course focuses on instrumentation; temperature, pressure, and flow measurements; transducers; pneumatic and hydraulic systems; programmable logic controllers; and process

control. In this course the students will have the opportunities to explore the characteristics and operations of different types of transducers and measuring instruments. The importance of system models as well as their relationship between process control will also be covered in this course.

TECH 230 Technology and Society 3 credits

Prerequisite: none

This course considers technological change from historical, artistic, and philosophical perspectives and its effect on human needs and concerns. Emphasis is placed on the causes and consequences of technological change and the evaluation of the implications of technology. Upon completion, students should be able to critically evaluate the implications of technology upon society.

TECH 233 Electrical Power Distribution 3 credits

Prerequisite: Recommended College Algebra and AC/DC Circuits

This course provides students a comprehensive overview of commercial Electrical Power Distribution. Students examine power system flow dynamics along with those elements and facilities associated with electrical power generation, its transmission, and subsequent distribution to gain a working understanding of Electrical Power Distribution. Additionally, students assess frameworks associated with economic, regulatory, and energy accounting practices to gain in depth understanding of how and why telemetry, communication, and control requirements are vital to maintaining electrical power system stability and reliability.

TECH 240 Job Task and Troubleshooting 3 credits

Prerequisites: TECH 180 Personal Protection Equipment for Electrical Work , TECH 185 Blueprint Reading

This is a course to introduce troubleshooting and safety strategies that enable students to solve problems in a safe, cost-effective and timely context and apply appropriate troubleshooting strategies when repairing electrical equipment. In simula-

tion part of the course, the learner will perform hazard analysis, read blueprint, inspect work areas, select LO/TO equipment, troubleshoot and repair electrical equipment.

TECH 250 Renewable Energy Overview I: Solar and Geothermal 3 credits

Prerequisite: Recommended AC/DC electric theory.

This course offers an overview of solar (photo-voltaic) energy, solar thermal energy, and geothermal energy. It also describes green building technologies (sustainable systems design). Political, economic, and environmental impact will also be discussed.

TECH 251 Renewable Energy II: Wind And Water 3 credits

Suggested prerequisite: In order to comprehend the course materials it is recommended the students understand AC/DC electric theory.

This course offers an overview of wind energy and water energy in both commercial and non-commercial applications. It continues discussion from TECH 250 regarding sustainable system design regarding green building technologies. Political, economic, and environmental impact will also be discussed.

TECH 260 Energy Industry Fundamentals 3 credits

Prerequisite: none

The purpose of the Energy Industry Fundamentals course is to ensure students gain an understanding of the energy industry. The Energy Industry Fundamentals course aligns with tiers 4 and 5 of the Energy Competency Model developed by the Center for Energy Workforce Development (CEWD) and the U.S. Department of Labor. As such, it covers such basics as emerging principles and concepts that impact the energy industry; compliance with safety and health procedures; how electric power and natural gas generation, transmission, and distribution work; a range of entry-level energy careers; and hot topics in energy. The course prepares students for the CEWD Energy Industry

Fundamentals certificate exam. This is a 3-credit course, requiring a minimum of 18 hours of course engagement each week in an 8-week term (refer to the Credit Hours Calculation Policy in the Student Handbook). Course engagement includes such activities as discussions, reading, study time, and assignments.

Textbooks are generally not required for this course. However, course materials may update in a given term prior to registration opening. Students should therefore always review course material requirements and associated costs at our bookstore for the term in which they are registering.

TECH 290 Integrated Technology Assessment AAST 3 credits

Prerequisite: This is a required course in the Associate in Applied Science in Technical Studies program; it is only open to Associate in Applied Science in Technical Studies students who have completed most, if not all degree requirements and should be taken in the final term.

This course is an online portfolio development experience that requires students to reflect on their past academic and professional experiences and use the information gained from this reflective exercise to develop learning statements related to the Associate of Applied Science in Technical Studies (AAS-T) degree outcomes. The learning statements must be supported by documented evidence that demonstrates that the outcomes have been met. Students learn how to develop an online portfolio during the first module of the course and then work under the guidance of a faculty mentor during the remainder of the semester to compose learning statements, compile appropriate evidence, and create the Integrated Technology Assessment report.

TECH 295 Integrated Technology Assessment AST

Prerequisite: This is a required course in the A.S. Technology program. It is open only to A.S. Technology students who have completed all other Technology core requirements and most, if not all,

General Education requirements.

This is the required capstone course for the Associate in Science in Technology program. It requires students to reflect on their past academic and professional experiences and use the information gained from this reflective exercise to develop learning statements related to the Associate in Science in Technology outcomes. The learning statements must be supported by documented evidence that demonstrates meeting the outcomes, and culminate in the Integrated Technology Assessment report.

TECH 330 Economic Analysis for Technologists 3 credits

Prerequisite: College Algebra or Statistics.

Required Knowledge: The course is highly quantitative. Strong algebra skills and the ability to create spreadsheets, especially EXCEL, are required for this course. College algebra, basic statistics or equivalent are required. Knowledge of micro or macro economics is recommended.

This course studies the application of economics and decision theory to the evaluation of engineering alternatives in planning, developing, constructing, and managing engineering projects. Students will learn the tools necessary to optimize multiple projects coupled with limited time, limited help, limited money, and limited resources.

TECH 340 Introduction to Energy Utilization 3 credits

Prerequisite: none

This course assesses how factors in the supply and demand of energy have influenced the landscape of the energy sector within and outside of the United States. It critically analyzes how economic, political, environmental, and social implications, at both the macro and micro levels, have affected technological advancements related to energy. Renewable energy sources include wind, photovoltaics, fuel cells, and biomass were also presented as well as information regarding state-of-the-art renewable energy technologies for the electric power and transportation industries.

TECH 490 Technology Management Capstone: Integrated Technology Assessment (ITA)

Prerequisite: This is a required course in the Bachelor of Professional Studies (BPS) in Technology Management Degree Program; it is only open to Bachelor of Professional Studies (BPS) in Technology Management students who have completed most, if not all degree requirements and should be taken in the final term.

This course is an online portfolio development experience that requires students to reflect on their past academic and professional experiences and use the information gained from this reflective exercise to develop learning statements related to the Bachelor of Professional Studies (BPS) in Technology Management degree outcomes. The learning statements must be supported by documented evidence that demonstrates that the outcomes have been met. Students learn how to develop an online portfolio during the first module of the course and then work under the guidance of a faculty mentor during the remainder of the semester to compose learning statements, compile appropriate evidence, and create the Integrated Technology Assessment report.

TECH 495 Integrated Technology Assessment BST

3 credits

Prerequisite: This is a required course in the Bachelor of Science in Technology (BST) Degree Program; it is only open to Bachelor of Science in Technology (BST) students who have completed most, if not all degree requirements and should be taken in the final term.

This course is an online portfolio development experience that requires students to reflect on their past academic and professional experiences and use the information gained from this reflective exercise to develop learning statements related to the Bachelor of Science in Technology (BST) degree outcomes. The learning statements must be supported by documented evidence that demonstrates that the outcomes have been met. Students learn how to develop an online portfolio during the first module of the course and then work under the guidance of a faculty mentor during the remainder of the semester to compose learning statements, compile appropriate evidence, and create the Integrated Technology Assessment report.

APPENDIX A

Maximum Credit Awarded for Licenses and Certifications for Undergraduate Health Sciences Degrees

LICENSE or CERTIFICATION	Associate in Science in Health Sciences Bachelor of Science in Health Sciences Bachelor of Science in Health Care Management			REQUIRED
	MAXIMUM CREDIT AWARDED			
Licensed Radiologic Technologist	18	32	17	State License
Licensed Nuclear Medicine Technologist	18	32	17	State License
Licensed Radiation Therapist	18	32	17	State License
Registered Nurse	21	30	20	State License
Licensed Practical Nurse	21	26	20	State License
Licensed Massage Therapist	18	26	17	State License
Certified Pharmacy Technician	18	24	17	Certificate or certification card from National Pharmacy Technician Certification Board (PTCB)
Certified Medical Manager (CMM)	9	9	12	Certificate or certification card from Professional Association of Health Care Office Management (PAHCOM)
Certified Medical Administrative Assistant (CMAA)	6	6	9	Certificate or certification card from National Health Career Association Certification (NHA)
Certified Medical Assistant (AAMA)—CMA (AAMA)	26	26	26	Certificate or certification card from American Association of Medical Assistants (AAMA)
Paramedic (NRP)	30	38	26	Certificate or certification card from National Registry of Emergency Medical Technicians
Emergency Medical Technician (EMT)	9	9	9	Certificate or certification card from National Registry of Emergency Medical Technicians

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