



EXCELSIOR COLLEGE

School of Business & Technology Program Catalog



The Philosophy of Excelsior College

What you know is more important than where or how you learned it.®

About Excelsior College

Excelsior College was founded in 1971 as the external degree program of the New York State Board of Regents. In 1998, the Board of Regents granted the College (then known as Regents College) an absolute charter to operate as a private, nonprofit, independent college. As are all accredited colleges in the state, Excelsior College is a member of The University of the State of New York. Today, the College is governed by a board of trustees composed of individuals from across the United States who are prominent in the fields of business, education, government, and the professions.

A leader in online and distance learning, Excelsior College awards degrees at the associate and baccalaureate levels in liberal arts, nursing, business, technology, and health sciences, and at the master's level in liberal studies, nursing, and business. Certificate programs are also offered by the Schools of Business & Technology, Health Sciences, Liberal Arts, and Nursing. More than 148,000 persons have earned degrees from Excelsior College.

Excelsior's student body represents a diverse group of adult learners.

- The average age of an Excelsior student is 39; about 59 percent are female, 41 percent are male.
- More than one-third of our enrolled students are from groups historically underrepresented in higher education.
- More than one-third of our students are active-duty or reserve military personnel or veterans.
- Thirteen percent of our students come from New York State; the remaining are from the rest of the United States and other nations.

The faculty of Excelsior College, both full-time and adjunct, are drawn from many colleges and universities as well as from industry and the professions. They teach our courses, establish and monitor academic policies and standards, determine degree requirements and the means by which credit may be earned, develop the content for all examinations, and recommend degree conferral to the Excelsior College Board of Trustees.

The Mission of Excelsior College

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

Vision Statement

Excelsior College aspires to be a model university for the 21st century.

- Excelsior will be a provider of choice for those who pursue their educational goals in a flexible, individualized manner.

- Excelsior will continue to serve as a cost-effective stimulus for lifelong learning and individual achievement, advocating the assessment of learning and aggregation of credit.
- Excelsior will be recognized as an ideal academic collaborator and as a valuable partner in addressing societal and workforce needs.

Accreditation

Excelsior College is accredited by the Middle States Commission on Higher Education, 3624 Market Street, Philadelphia, PA 19104, telephone: 267-284-5000. The Middle States Commission on Higher Education is an institutional accrediting agency recognized by the U.S. Secretary of Education and the Council for Higher Education Accreditation.

The associate, bachelor's, and master's degree programs in nursing at Excelsior College are accredited by the National League for Nursing Accrediting Commission (NLNAC), 3343 Peachtree Road NE, Suite 850, Atlanta, GA 30326, telephone: 404-975-5000. The NLNAC 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 programs in electrical engineering technology and nuclear engineering technology are accredited by the Engineering Technology Accreditation Commission of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202, 410-347-7700; www.abet.org. ABET is a specialized accrediting agency recognized by the Council for Higher Education Accreditation (CHEA).

Excelsior College has received specialized accreditation for its business programs through the International Assembly for Collegiate Business Education (IACBE), 11374 Strang Line Rd., Lenexa, KS 66215; 913-631-3009; www.iacbe.org. The IACBE is a specialized accrediting agency recognized by the Council for Higher Education Accreditation (CHEA). The business programs in the following degrees are accredited by the IACBE: Bachelor of Science in Accounting (NYS CPA track) and Bachelor of Science in Business.

All the College's academic programs are registered (i.e., approved) by the New York State Education Department.

Recognition

The Master of Arts in Liberal Studies program has been accepted into full membership by the Association of Graduate Liberal Studies Programs (AGLSP).

The American Council on Education's College Credit Recommendation Service (ACE CREDIT) has evaluated and made college credit recommendations for Excelsior College Examinations.

The National League for Nursing (NLN) has designated the Excelsior College School of Nursing as a Center of Excellence in Nursing Education, 2011–2016. This distinction has been awarded in recognition of the College's sustained achievements in creating environments that promote student learning and professional development and it is the third consecutive designation the School has received since the NLN began the program in 2005.

Individual State Registration/Authorization Disclosure

Minnesota: Excelsior College is registered as a private institution with the Minnesota Office of Higher Education pursuant to sections 136A.61 to 136A.71. Registration is not an endorsement of the institution. Credits earned at the institution may not transfer to all other institutions.

Florida: Additional information regarding Excelsior College may be obtained by contacting the Commission for Independent Education, 325 West Gaines Street, Suite 1414, Tallahassee, Florida 32399-0400.

Important Addition to the School of Business & Technology Catalog, 2013 Edition

Bachelor of Science in Cyber Operations

The Bachelor of Science in Cyber Operations program is aligned with the academic requirements for cyber operations set by the National Security Agency (NSA) and will provide students with the ability to enhance technical knowledge and skills in cyber operations. This program is designed to prepare students for jobs with the U.S. Cyber Command, the NSA's signals intelligence operations, the Federal Bureau of Investigation, and other law enforcement agencies that investigate cyber crimes. Typical occupational areas associated with cyber operations include incident response analyst, cyber compliance analyst, cyber threat management, cyber network operations planner, cyber systems analyst, systems administrator, and cyber systems and operation engineer.

Program Student Outcomes

Upon successful completion of the Excelsior College Bachelor of Science in Cyber Operations, the graduate will be able to:

1. Emphasize technologies and techniques related to specialized cyber operations (e.g., collection, exploitation, and response) involved in national security.
2. Utilize technologies and processes that continuously monitor, maintain, and protect the national security posture of the United States.
3. Utilize an interdisciplinary approach in employing the best sources and expertise for information related to cyber operations and threats to national security.

4. Detect, analyze, and respond to cyber attacks on networks and computer systems that threaten national security.
5. Conduct risk and vulnerability assessments of existing and proposed security systems.
6. Develop and implement organizational cybersecurity policies and procedures designed to protect areas involving national security.
7. Develop skills that further the goal to broaden the pool of skilled workers capable of supporting a cyber-secure nation.

Degree Requirements

120 credits

The Bachelor of Science in Cyber Operations requires 120 semester

hours of credit distributed as follows:

- 60 credits minimum required in the arts and sciences component
- 51 credits minimum required in the Cyber Operations component with at least 15 credits at the upper level
- 9 credits maximum allowed in the free elective component (to include information literacy)

I. Arts and Sciences Component (60 Credits)

The Bachelor of Science in Cyber Operations 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 [ENGx111 English Composition, ENG 101 English Composition, ENG 102 English Composition II, ENG 201 Writing for the Professions]. 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 [BUS 323 Business 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 15 credits must be earned in natural sciences/ mathematics and include 3 credits in a natural science and the following four math courses:

1. Discrete Math [TECH 205 Discrete Structures]
2. Calculus I [TECH 201 Foundations of Technology Problem Solving I]
3. Calculus II [TECH 202 Foundations of Technology Problem Solving II]
4. Statistics [BUS 233 Business Statistics, MAT 201 Statistics]

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

C. Arts and Sciences Electives: At least 21 additional credits in any arts and sciences areas must be completed.

II. Cyber Operations Component (51 credits)

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

A. The following core requirements must be met:

- C++ Programming (3 credits)
[IT 240 Introduction to C++ Programming]
- Fundamentals of Information Assurance (3 credits) [CYS 250 Fundamentals of Information Assurance]
- Governance, Legal, and Compliance (3 credits) [CYS 260 Governance, Legal, and Compliance]
- Microprocessors (3 credits)
[ELEC 202 Microprocessors]
- Computer Architecture (3 credits)
[IT 321 Computer Systems Architecture]
- Operating Systems (3 credits)
[IT 360 Operating Systems]
- Internetworking with TCP/IP (3 credits)
[IT 442 Internetworking with TCP/IP]
- Computer Forensics (3 credits)
[IT 406 Computer Forensics]
- Advanced Networking (3 credits)
[IT 422/CYS 522 Advanced Networking]
- Secure Mobile and Cloud Computing Environments (3 credits) [CYS 456 Secure Mobile and Cloud Computing Environments]
- Fundamentals of Cryptography (3 credits)
[IT 410 Fundamentals of Cryptography]
- Cyber Security Defense in Depth (3 credits)
[CYS 345 Cyber Security Defense in Depth]
- Cyber Attacks and Defenses (3 credits)
[CYS 426/526 Cyber Attacks and Defense]
- Reverse Engineering (3 credits) [CYS 400 Reverse Engineering]
- Security Focused Risk Management (3 credits)
[CYS 450 Security Focused Risk Management]
- Secure Software Development and Analysis (3 credits) [CYS 470 Secure Software Development and Analysis]
- Cyber Operations Capstone (3 credits)
[CYS 495 Cyber Operations Capstone – The capstone course is required and must be taken through Excelsior College. It cannot be transferred in.]

B. Level Requirement: Of the 51 credits required for the cyber operations 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.

C. Free Elective Component (9 credits): The Bachelor of Science in Cyber Operations allows room for up to 9 credits in free electives. Applied to this component is the one credit for Excelsior College's information literacy requirement **[INL 102 Information Literacy]**. See page 4 or visit our website for more information about information literacy.

You may earn the remaining 8 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 Cyber Operations follow. Refer to your Student Policy Handbook for academic and administrative policies that apply to all students and programs.

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

JAVA C

PYTHON C++

Visual Basic C#

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

Credit for Vendor Examinations

Excelsior College awards credit for certain examinations from vendors such as Microsoft, CompTIA, Novell, Cisco, Sun, ORACLE, and SAS. You may apply up to 9 credits from vendor certification examinations toward the IT component of your degree; additional credits from such examinations may apply toward the free elective component. Please contact a technology advisor about the possibility of receiving college-level credit toward your degree requirements.

Time Limit on Coursework

Because of the rapidly changing nature of technology, Excelsior College has established a time-related restriction on the application of credit from previous computer- and electronics-related coursework. To meet this requirement, relevant coursework must have been completed more recently than 10 years prior to enrollment in Excelsior College. This may not be appealed. The Bachelor of Science in Technology with a Computer Technologies specialty has a time limit that may be appealed.

Course Materials Policy

The faculty requires that students submit course materials for all math and technology component courses taken outside of Excelsior College. 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 Status Report.

Bachelor of Science in Cyber Operations

Total Degree Credits Required: 120

BS

Arts and Sciences Component

Communications

(includes 6 credits in the Written English requirement)

Ethics

Humanities Elective

Social Sciences/History

Natural Sciences/Mathematics Requirement

Discrete Math

Calculus I

Calculus II

Statistics

Remaining Arts and Sciences Electives

(May be taken from any areas of humanities, social sciences/ history, natural sciences, or math)

Credit
Hours

9

3

3

9

15

21

Total Arts and Sciences Credits

60

Free Elective Component

Any Collegiate-level Study

May include any excess credit in Arts and Sciences, Business, or any approved free elective area. (excluding physical education activity courses)

Information Literacy

Credit
Hours

8

1

Total Additional Credits

9

Cyber Operations Component

Core Requirements

C++ Programming

Microprocessors

Computer Architecture

Operating Systems

Advanced Networking

Internetworking with TCP/IP

Secure Mobile and Cloud Computing

Reverse Engineering

Fundamentals of Information Assurance

Cyber Security Defense in Depth

Cyber Attacks and Defenses

Computer Forensics

Governance, Legal, and Compliance

Security Focused Risk Management

Secure Software Development and Analysis

Cryptography

Capstone

Credit
Hours

Minimum Professional Component Credits
15 credits must be upper level

51

Master of Science in Management

The Master of Science in Management degree (MSM) is a 30-semester-hour professional degree intended for those who desire to advance their career in the business, nonprofit, military, or government sector. This interdisciplinary program focuses on leadership, organizational behavior, change management, global business environment, and conflict management to enable the participant to build a strong foundation to qualify for an organizational leadership or management role. The program integrates theory, case study, practice, and virtual simulations to prepare the participant to grow both their personal and organizational leadership and motivational abilities. Progressive and growing organizations are in constant demand of candidates who possess advanced leadership and project management knowledge and skills obtainable through Excelsior College's Master of Science in Management (MSM).

Consistent with Excelsior College's mission to provide academic opportunities that overcome barriers of time, distance, and cost, the MSM program allows students to transfer up to 15 credits from outside sources. The School of Business & Technology offers online courses to fulfill all MSM core requirements. Upon admission to the program, each candidate receives an individualized evaluation that indicates which courses the candidate must complete to qualify for the degree. Students can complete the MSM 100 percent online.

The Excelsior College MSM is the flexible, accessible, and relevant option for adults who want to enhance their career options and obtain a first-rate graduate education while maintaining family, work, and community obligations.

Program Student Outcomes

Upon successful completion of the Excelsior College Master of Science in Management, the graduate will be able to:

1. Analyze real-world business problems and generate recommendations for action.
2. Integrate accounting, marketing, finance, management, and economics into strategic business analysis.

3. Assess the impact of the global business environment on business situations.
4. Apply qualitative methods to analysis of business situations.
5. Perform ethically and professionally in business and society.
6. Communicate effectively to relevant audiences orally and in written materials.
7. Collaborate in teams to produce required deliverables.
8. Apply project management skills to business situations.
9. Assess the ethical implications of actions for diverse stakeholders.

Degree Requirements

30 credits

The Master of Science in Management program requires a minimum of 30 graduate-level credits, with ten required courses. Students in this program are allowed to transfer in a maximum of 15 approved, graduate-level credits, thus requiring a minimum of 15 credits to be taken directly at Excelsior College.

Required Subjects

Business Communications (3 credits)

[BUS 501 Business Communication]

Business Ethics for Managers (3 credits)*

[BUS 523 Business Ethics for Managers]

Conflict Management (3 credits)

[BUS 560 Conflict Management, MLS 694 Theories of Conflict and Conflict Resolution]

Global Business Environment (3 credits)

[BUS 502 Global Business Environment]

Leadership (3 credits)

[BUS 552 Leadership]

** Students who have taken an approved upper-level undergraduate course in Business Ethics and/or Organizational Behavior within the last 10 years with a grade of B or above may waive this requirement. However, they must then take one or more approved graduate courses to meet the required total of 30 credits for the degree. Any waivers will count toward the 15 credits accepted in transfer.*

Organizational Behavior (3 credits)*

[BUS 553 Organizational Behavior]

Human Resource Management (3 credits)

[BUS 504 Human Resource Management]

Change Management (3 credits)

[BUS 554 Change Management]

Project Management Principles and Application
(3 credits) **[BUS 530 Project Management Principles
and Application]**

MSM Strategy Capstone (capstone) (3 credits)

**[BUS 599 Masters in Strategic Management Capstone
—the capstone course is required and must be taken
through Excelsior College and cannot be transferred in.]**

Note: Students might need to take additional
course(s) if they do not have the appropriate
prerequisites to complete the program.

* *Students who have taken an approved upper-level undergraduate course in Business Ethics and/or Organizational Behavior within the last 10 years with a grade of B or above may waive this requirement. However, they must then take one or more approved graduate courses to meet the required total of 30 credits for the degree. Any waivers will count toward the 15 credits accepted in transfer.*

Important Note:

You are subject to the degree requirements in effect at the time of your enrollment or program/degree transfer (program transfer refers to change from one school to another; degree transfer refers to changing degrees within the same school). The faculty reserves the right to make changes in curricular requirements as necessary to reflect current professional practice. Changes may affect both enrolled and prospective students. It is your responsibility to keep informed of such changes. We make every effort to inform you of changes as they occur. Current information about degree requirements is posted on our website. Information about changes to degree requirements is also made available on our website.

Required Subjects

Business Communications
Business Ethics for Managers*
Conflict Management
Global Business Environment
Leadership
Organizational Behavior*
Human Resource Management
Change Management
Project Management Principles and Application
MSM Strategy Capstone**
MSM Electives, if needed

Credit
Hours

Total Required Credits

30

* May be waived with approved upper level, undergraduate course.

** **BUS 599 MSM Strategy Capstone** is the required capstone and must be taken through Excelsior College. It cannot be transferred in.

School of Business & Technology

A Message from the Dean

Dear Student:

Welcome and congratulations on your decision to pursue your educational goals with Excelsior College!

Excelsior College offers our students a large variety of options toward earning their degree. We accept credits from other accredited colleges and universities, industry-approved training credits, military training credits, and a variety of certifications and proficiency examinations, along with earning college credit for work and life experiences. As such, we provide a flexible way to progress toward completing your business or technology degree while balancing the demands of work and family. Since 1971, Excelsior College has helped more than 148,000 students achieve their dream of earning a college degree. That is our goal as an institution.

The School of Business & Technology catalog describes the breadth of degree and concentration options that we offer. It is an exciting time for the School of Business & Technology! We continue to grow our ABET-accredited degree programs in engineering technology, our IACBE-accredited Bachelor of Science in Business, and our MBA programs, along with offering new degree programs in professional studies for both the business and technology disciplines. We are also developing new concentrations that will help our students stay competitive in upcoming industries and corporations! And don't forget about our new MS in Cybersecurity! I encourage you to read our catalog and take full advantage of the many resources available so that your college experience is successful.

Thank you for choosing the Excelsior College School of Business & Technology. Best wishes for your success!

A handwritten signature in black ink that reads "Jane LeClair". The signature is written in a cursive, flowing style.

Dr. Jane LeClair, Dean
School of Business & Technology

LIMITATIONS

Information in this catalog is current as of June 2013, and is subject to change without advance notice.

CHANGES IN COLLEGE POLICIES, PROCEDURES, AND REQUIREMENTS

The College reserves the right to modify or revise the admission requirements of any program of the College; 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 enrolled students so long as they actively pursue their degree requirements. However, in the event that it is necessary to make program changes for enrolled 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 College 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 College does not discriminate on the basis of age, color, religion, creed, disability, marital status, veteran status, national origin, race, gender, or sexual orientation in the educational programs and activities which it operates. Portions of this publication can be made available in a variety of formats upon request.

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

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Important Information for All Students

Student Policy Handbook

The Excelsior College *Student Policy Handbook* is your resource for understanding the academic and administrative policies that are important to your academic success. It includes a wide range of information from 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 College 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.

Policies and procedures that apply only to a specific degree program are listed in the appropriate school catalog. You may download a copy of the *Handbook* from our website. File your *Handbook* with your other important academic papers and this program catalog for easy reference.

Standardized Testing Participation

Students have a responsibility to participate in standardized tests (an example is the “Proficiency Profile” published by Educational Testing Services) that may be required during the period of their enrollment. These tests may be in addition to regular coursework and are required to gather critical information on achievement of student learning. Students are expected to actively participate and make every effort to do their best on these assessments to produce scores that accurately reflect their abilities. The results from these assessments will not be part of the course grade but are crucial for the purpose of program improvement and are frequently required by regulators and accreditation agencies. Participation in these assessments con-

tributes toward increasing the value of the degree by providing evidence of student learning to external organizations, employers, and the general public.

Excelsior College Website

Through the College’s website, 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 tailored to your specific academic program as well as general announcements from the College.

General Education Outcomes for All Undergraduate Degree Programs

Each undergraduate degree program has a strong arts and sciences component designed to help you develop a broad-based understanding of multiple disciplines, provides a breadth of academic experience to enrich your life and allows you to become more informed and engaged as a citizen and a lifelong learner in an increasingly complex and changing world. This arts and sciences component, offered in a delivery model of flexibility, quality, and accessibility that is based on adult learning theory, helps you to integrate knowledge from multiple sources and experiences in diverse ways of knowing. These guiding principles have thus formed the six learning goals for General Education at Excelsior College.

1. **Communication and Oral Expression.** Excelsior students will be able to express themselves effectively in English, both orally and in writing, and with clarity, persuasiveness, and coherence using standard conventions of English.
2. **Mathematics and Scientific Method.** Excelsior students will utilize scientific reasoning and basic mathematical calculations in problem solving in their public discourse.

Important Information for All Students

3. **Information Literacy.** In this age of information proliferation due to rapid technological advances, students will have to learn to discern information critically. They will have to learn to identify the amount and type of information needed, to understand where to locate, effectively access that information, evaluate the source of the information, and use it as per legal and ethical considerations.
4. **Human Thought and Creativity.** Excelsior students will be able to explain, interpret, critique, create, or perform works of human creativity at an informed level.
5. **Diversity and Global Understanding.** Excelsior students will have an understanding and appreciation of the complexities of diversity and will be able to interact effectively with people from backgrounds and cultures different from their own. They will have gained a global perspective that is grounded in the issues, trends, and opportunities that connect nations and communities around the world. They will challenge their own sense of “self” vis-à-vis an understanding of those with different thoughts, beliefs, traditions, behaviors, and understandings.
6. **Social Responsibility and Civic Engagement.** Excelsior students will acknowledge the importance of social responsibility and civic engagement and the behaviors that support these beliefs.

For more information on the General Education goals and outcomes please visit:

www.excelsior.edu/gened

Technology Literacy

Excelsior College Definition of Technology Literacy [Based on State Educational Technology Directors Association (SETDA)]

Excelsior College defines technology literacy as the ability to identify and responsibly use appropriate technology to communicate, solve problems, and 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.

Baseline Technology Skills and Resources

1. Prior to being admitted to Excelsior College, all students should be knowledgeable in the use of a personal computer (Windows or Macintosh). Entering students should have the ability to
 - use a personal computer,
 - use office automation programs to create, edit, store and print documents,
 - use electronic communication tools, and
 - search and retrieve information from electronic resources to complete assignments and activities.
2. Students must have reliable access to a computer with Internet connectivity.
3. Student's computer and operating system must meet the minimal technical requirements as noted in the Excelsior College Computer System Requirements (www.excelsior.edu/system-requirements).
4. Students must be able to utilize required software applications.
5. Students need to utilize the Excelsior College website to access information, resources, and the Message Center, and to participate in activities. See the Excelsior College Electronic Use policy (www.excelsior.edu/electronic-use-policy).
6. Students are required to conduct themselves appropriately and professionally at all times, including online.

About Test Preparation and Tutorial Services

Preparation for Excelsior College® Examinations, though based on independent study, is supported by Excelsior College with a comprehensive set of exam learning resources and services designed to help you succeed.

These learning resources are prepared by Excelsior College so you can be assured that they are current and cover the content you are expected to master for the exams. These resources, and your desire to learn, are usually all that you will need to succeed.

There are test-preparation companies that will offer to help you study for our examinations. Some may imply a relationship with Excelsior College and/or make claims that their products and services are all that you need to prepare for our examinations.

Excelsior College is not affiliated with any test preparation firm and does not endorse the products or services of these companies. No test preparation vendor is authorized to provide admissions counseling or academic advising services, or to collect any payments, on behalf of Excelsior College. Excelsior College does not send authorized representatives to a student's home.

Depending upon your individual learning style and needs, you may consider using the services and products of a test preparation vendor to help you prepare for an Excelsior College Examination. Some students have found such materials beneficial while others have not. The decision to purchase the services and products of any of these vendors is entirely up to you.

Excelsior College does not review the materials provided by test preparation companies for content or compatibility with Excelsior College Examinations.

To help you become a well-informed consumer, we suggest that you consider the following before making any purchase decision regarding study materials provided by organizations other than Excelsior College.

Does the company:

- Clearly articulate that it is an independent business enterprise, separate from Excelsior College, and that it is not a degree-granting institution?
- Clearly inform you that the products and services it provides have not been reviewed, nor are they endorsed, by Excelsior College?
- Openly indicate that it is not an agent of Excelsior College, that it is not authorized to provide admissions counseling or academic advising regarding Excelsior's degree requirements, and that all its costs and fees are separate from those you will pay to the College?
- Have a record of unresolved complaints/disputes with consumer protection agencies, nursing boards, attorneys general offices, or other similar organizations?
- Require clients to commit to long-term, binding contracts to access its products and services?
- Provide data to substantiate the satisfaction of its clients with its products and services?

www.excelsior.edu/testprep

School of Business & Technology

Vision Statement

The School of Business & Technology will provide a diversified approach to degree completion to serve adult learners in achieving their educational and career aspirations.

Mission Statement

The mission of the School of Business & Technology's faculty and staff is to provide quality Business and Technology-focused programs that use innovative academic approaches for adult learners from diverse backgrounds.

Strategies

This mission will be accomplished through the following strategies:

- Enhance the Student Experience
- Diversification of Programs and Markets
- Build the Brand
- Use Technology to Enhance Efficiency and Effectiveness
- Be a Sector Leader
- Continuously Improve

Admission Requirement

All degree programs in the School of Business & Technology are open-enrollment; however, in order to enroll, each student must submit an undergraduate or graduate application to the College. When submitting the application, each student must include all applicable documents, such as official transcripts, military documents, score reports, and copies of licenses that may qualify for credit toward a degree.

Programs Offered in the School of Business & Technology

Business Programs

Associate in Applied Science in
Administrative/Management Studies

Associate in Science, Business

Bachelor of Professional Studies in Business
and Management

Bachelor of Science in Accounting
(New York State CPA Track)

Bachelor of Science in Business

Bachelor of Science in Business to Master of
Business Administration (Dual Degree Track)

Master of Business Administration

Technology Programs

Associate in Applied Science in Technical Studies

Associate in Science in Nuclear Technology

Associate in Science in Technology

Bachelor of Professional Studies in
Technology Management

Bachelor of Science in
Electrical Engineering Technology

Bachelor of Science in Information Technology

Bachelor of Science in Information Technology to
Master of Business Administration
(Dual Degree Track)

Bachelor of Science in Information Technology to
Master of Science in Cybersecurity
(Dual Degree Track)

Bachelor of Science in Nuclear Engineering Technology

Bachelor of Science in Nuclear Engineering
Technology to Master of Business Administration
(Dual Degree Track)

Bachelor of Science in Technology

Undergraduate Certificate in Cybersecurity

Graduate Certificate in Cybersecurity Management

Master of Science in Cybersecurity

School of Business & Technology

Program Planning

Plan carefully and consult with your academic advisors about the courses and examinations that will fulfill your degree requirements. We recommend that you obtain prior approval to ensure that the courses/examinations will apply toward your degree.

Prior approval may be submitted through the message center (located in your MyExcelsior account), via email, or by telephone. If a graduate program is part of your plan, consult the admissions office at the graduate school you are considering and discuss requirements and policies.

Excelsior College Academic Advising Mission Statement

We, as Excelsior College professional academic advisors, actively engage and support our students in the development and achievement of their academic, career, and personal goals.

Excelsior College Academic Advising Values

Our academic advising community is dedicated to:

- Empowering students as lifelong learners;
- Building a collegial environment of mutual trust and respect;
- Providing quality student service;
- Inspiring student success.

www.excelsior.edu/
MyExcelsior

Important: It is important for you to keep us informed of your current contact information, so we can reach you. You can update your address, phone numbers, fax number and email preference on our website, through your MyExcelsior user account, or you can call us with this information.

Choosing a Degree Program in Business

You may find it helpful to compare the requirements for each degree with your own educational background and career aspirations to determine the best degree for you. Professionals in your field of choice may be able to advise you about the preparation necessary for particular areas, and graduate school admissions counselors can advise you about requirements for entry into specific graduate schools. Excelsior College advisors can offer you general information about how previous study might apply to degree requirements and about your general options for continued study.

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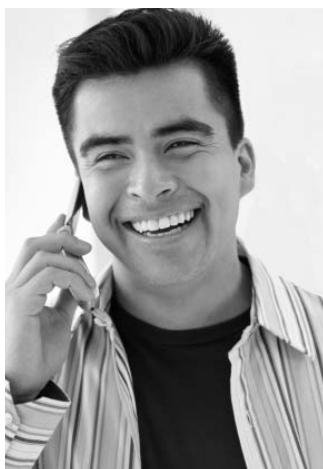
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Requirements and Policies for *ALL* Business Degrees

Every Excelsior College business degree program requires a specific number of semester hours of credit in each of its component areas. These areas include an arts and sciences component, a business or career/professional component, and a free elective component in which you may earn credits through applicable coursework or examinations in subject areas of interest to you.

In the following pages, you will find a chart relevant to each degree program, which provides a graphic representation of the credit needed to fulfill the requirements.



You are subject to the degree requirements in effect at the time of your enrollment or program/degree transfer (program transfer refers to change from one school to another; degree transfer refers to changing degrees within the same school).

The faculty reserves the right to make changes in curricular requirements as necessary to reflect professional practice. Changes may affect both enrolled and prospective students. It is your responsibility to keep informed of such changes. We make every effort to inform you of changes as they occur. Current information about degree requirements is posted on our website. Information about changes to degree requirements is also made available on our website.

Policies Specific to the Business Programs

The Excelsior College *Student Policy Handbook* is your resource for understanding the academic and administrative policies that are important to your academic success. It includes a wide range of information from 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.

Policies and procedures that apply specifically to the business degree programs are listed on the following pages. File your handbook with your other important academic papers and this program catalog for easy reference.

Your Personalized MyExcelsior Account:

www.excelsior.edu/MyExcelsior

Student Policy Handbook:

www.excelsior.edu/StudentPolicyHandbook

Admissions:

toll free 888-647-2388, ext. 27

Business Programs Advising Team:

toll free 888-647-2388, ext. 1331

Excelsior College Community Resources:

www.excelsior.edu/MyExcelsior, click on Communities tab

Note: Where an Excelsior College exam or course will satisfy a requirement, it is shown in [brackets]. Excelsior College® Examinations (ECE) have an “x” after the department; for example, [BUSx310 Ethics: Theory & Practice].

Second Degree Restrictions

No student is permitted to earn a second business degree in the same or similar area of study or focus. Please refer to your *Student Policy Handbook* for specific information.

Minimum Academic Average

You must have a cumulative grade point average of C (2.00) or better in order to qualify for graduation from Excelsior College. In addition, only course or examination grades of C (or better), P (Pass), or a score acceptable to the Excelsior College faculty will qualify toward satisfying the business requirements. Refer to the *Student Policy Handbook* for complete information.

Time Limit on Transfer of Credit

Only those business courses completed within 20 years of the date of your enrollment may be used for credit toward the business component of the Associate in Science in Business and all Bachelor of Science business degrees. However, credit earned more than 20 years prior to your enrollment may be applied to the arts and sciences component requirements. Also, nonduplicative business credit earned more than 20 years prior to your enrollment may be applied as free elective credit.

There is no time limit on the transfer of credit to any component of the Associate in Applied Science in Administrative/Management Studies or the Bachelor of Professional Studies in Business and Management.

Diversity

Excelsior College encourages you to plan your degree program to include study of the perspectives of various ethnic and cultural groups as well as investigation of the fundamental assumptions of Western civilization.

Sources of Credit Applicable Toward Your Degree

There are a variety of means by which you may earn credit for your degree, including Excelsior College online or CD-ROM courses, campus-based courses, courses offered at a distance, Excelsior College® Examinations (ECEs), and accredited proficiency examinations. All transfer credit must have a minimum grade of C–.

Information about acceptable examination programs can be found in our publication, *A Student Guide to Credit by Examination at Excelsior College*, available for download at our website.

Requirements for All Degree Programs

Written English Requirement (WER)

Students are required to demonstrate competence in expository writing in English by completing one of the following for the associate degree and two of the following for the bachelor's degree.

1. Examination

- a. Excelsior College® Examination, [ENGx111 English Composition] (fulfills the requirement for associate and bachelor's degrees)
- b. UExcel® examination, [ENGx110 College Writing] (fulfills the requirement for the associate degrees; partially fulfills the requirement for the bachelor's degrees)
- c. Advanced Placement (AP) English Examinations (fulfills the requirement for the associate and bachelor's degrees)

Note: Excelsior College does not accept the CLEP General Examination in English Composition with Essay toward this requirement.

2. College coursework: Successful completion of one college course (minimum 3 semester- or four quarter-hour credits; minimum grade of C) from one of the following options for the associate degrees, and from two of the following options for the bachelor's degrees:

- a. Expository writing courses such as Excelsior College's **ENG 101 English Composition**, **ENG 201 Writing for the Professions**, or **MLS 500 Graduate Research and Writing** (some restrictions apply).
- b. Two institutionally designated writing-intensive, writing-emphasis courses.
- c. Two applied writing courses. The applied writing courses must focus on different applications of the writing process.

Note: Coursework must be from an English-speaking institution. English as a Second Language courses may not be used to satisfy 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 New York State 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.

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

Information Literacy Requirement

Students are expected to demonstrate competency in information literacy. The standards, performance indicators, and outcomes for this requirement were selected from the Association of College and Research Libraries (ACRL) Information Literacy Competency Standards for Higher Education. Competency will be assessed through a one-credit pass/fail course offered online by Excelsior College [**INL 102 Information Literacy**] or through successful completion of a course taken at a regionally accredited college covering comparable content.

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.

Students seeking additional information should check the Excelsior College website or consult with their academic advising team.

Associate Degree Programs in Business

For the business student, the Excelsior College School of Business & Technology offers a number of relevant programs at the associate degree level. Many focus specifically on high-growth industries with exciting career opportunities. And you may apply workplace and military training as credit, accelerating the path to your degree.



Excelsior College offers a virtual student chapter of the Society for Human Resource Management (SHRM). Memberships are open to currently enrolled Excelsior College students.

Associate in Applied Science in Administrative/Management Studies

While this degree program was designed specifically to meet the needs of those with military backgrounds by recognizing the college-level learning that takes place as a result of military training, the program may also be appropriate for non-military students. This degree program comprises learning and professional skill development in the areas of administration and/or management. Individuals exploring careers

in the following business administration areas may benefit from this degree program: Personnel/office administration, recordkeeping, data entry, clerical, secretarial, word processing/typing, reception/front office administration, and customer/guest services. Individuals exploring careers in the following business management areas may 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 degree program who are interested in continuing to baccalaureate-level study should contact the business advising team for advice in the preferred program of study. See Chart 1 on the following page 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 College Associate in Applied Science in Administrative/Management Studies program, the graduate will be able to:

1. Demonstrate effective oral and written communication skills.
2. Demonstrate introductory college-level proficiency in one or more of the subject areas in mathematics and natural sciences.
3. Demonstrate introductory college-level proficiency in one or more of the social sciences.
4. Demonstrate a comprehension of cultural diversity, human behavior, ethical decision making, and the relationship between business and society.
5. Demonstrate proficiency in administrative/management skills required in an organization.

Your Personalized MyExcelsior Account:

www.excelsior.edu/MyExcelsior

Admissions: toll free 888-647-2388, ext. 27

College Publications, Applications, and Forms:

www.excelsior.edu/publications

Student Policy Handbook:

www.excelsior.edu/StudentPolicyHandbook

Fee Schedules, Financial Aid, and Scholarships:

www.excelsior.edu/fees

www.excelsior.edu/FinancialAid

www.excelsior.edu/scholarships

Excelsior College Learning Resources:

www.excelsior.edu/library

www.excelsior.edu/bookstore

www.excelsior.edu/MyExcelsior, click on the Resources tab

Student Online Success Guide

www.excelsior.edu/SuccessGuide

Excelsior College Online Writing Lab (OWL):

www.excelsior.edu/OWL

**Free Writing Resources (scheduled to debut Fall 2011),
Online Software Skills Training through Atomic Learning
(EC course and exam registrants only),**

**Online Tutoring Services through SMARTHINKING™
(EC course and exam registrants only)**

www.excelsior.edu/MyExcelsior, click on the Resources tab

Excelsior College Community Resources:

www.excelsior.edu/MyExcelsior, click on Communities tab

CHART 1

Associate in Applied Science Degree in Administrative/ Management Studies

AAS

**Total Degree
Credits
Required: 60**

Arts and Sciences Component

Credit
Hours

Humanities Requirement

(3 credits must satisfy the Written English Requirement and 3 credits must be in subjects other than writing)

6

Social Sciences/History Requirement

(3 credits in natural sciences and 3 credits in behavioral sciences subjects)

6

Natural Sciences/Mathematics

(3 credits in natural sciences and 3 credits in mathematics)

6

Arts and Sciences Electives

2

Total Arts and Sciences

20

Career Component*

BUS 290 Integrated Business and Management Assessment (capstone) is the required capstone course included in the career component. (**BUS 290** is required and must be taken through Excelsior College. It cannot be transferred in. A minimum grade of "C" is required.)

20

Total Career Component

20

Elective Component

Free Elective Component (includes 1-credit Information Literacy Requirement)

20

Total Elective Component

20

*Less than one-half of credits earned can be in IT.

Degree Requirements

60 credits

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
- 20 credits minimum in the career component
- 20 credits of electives (to include information literacy)

I. Arts and Sciences Component

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 College's written English requirement and 3 credits in a humanities area other than writing;
- 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.

Note: Excess credits in arts and sciences or in the career 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 (see page 3). The remaining 3 credits may not be in subjects such as written English composition, Freshman English, or lower-level applied, technical, or professional writing.

Humanities subjects include, but are not limited to, art, music, foreign language, literature, humanities, philosophy, religion, speech/communications, and ethics.

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/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.

Career Component

The Associate in Applied Science in Administrative/Management Studies degree requires a minimum of 20 credits in the career component. The career component consists of business credits related to your career field and primarily applies to those with military backgrounds. A maximum of 9 credits in computer courses/exams may be applied to the career component.

BUS 290 Integrated Business and Management Assessment (capstone) is the required capstone course included in the career component.

Note: BUS 290 capstone course is required and must be taken through Excelsior College and cannot be transferred in.

The following list shows the classification of military career fields according to the Associate in Applied Science in Administrative/Management Studies program. Career fields have been categorized to assist you in designing your program. If you have earned examination or coursework credit beyond military educational experience, you may choose another degree area that better fits your educational goal. Career fields that do not appear on this list may be appropriate for other Excelsior College degrees.

Military Career Fields

Army MOSs

00Z, 11B, 11C, 11H, 11M, 11Z, 13B, 13C, 13D, 13E, 13F, 13M, 13P, 13R, 13T, 13Z, 14D, 14J, 14L, 14M, 14R, 14S, 14Z, 18B, 18C, 18D, 18E, 18F, 18Z, 19D, 19K, 19Z, 25Z, 37F, 38A, 43M, 57E, 71D, 71G, 71L, 71M, 73C, 73D, 73Z, 75B, 75F, 75H, 76J, 79R, 79S, 79T, 88H, 88K, 88M, 88N, 88X, 88Z, 91B, 91M, 92A, 92G, 92M, 92R, 92Y, 92Z, 93C, 93F, 93P, 95B, 95C, 95D, 96B, 96D, 96H, 96R, 96U, 96Z, 97B, 97E, 97L, 97Z, 98C, 98G, 98H, 98J, 98K, 98Z, and related Warrant Officer MOSs

Navy Ratings

AC, AK, AZ, BM, CTA, CTI, CTO, CTR, DK, IS, LN, MA, MS, NC, PC, PN, QM, RP, SH, SK, SM, YN, and related Warrant Officer and Limited Duty Officer Ratings

Marine Corps MOSs

0150160230310320330332, 0340350352, 0369, 0810842, 0844, 0861171181811812, 2622629, 2632643, 2652672673, 2674, 2675, 3043, 3044, 3112, 3383423453529, 3533, 3537, 4425815812, 5836396597047324, 8438618915

Coast Guard Ratings

BM, IV, PS, QM, RD, SK, SS, TC, YN, and related Warrant Officer Ratings

III. Electives

The Associate in Applied Science in Administrative/Management Studies allows room for up to 20 credits in electives. Applied to this component is the one-credit information literacy requirement. See page 4 for more information about this requirement.

Although you may have already fulfilled the minimum credit requirements in the arts and sciences and career component of your degree, you may still need to earn additional credit to fulfill the total 60-credit requirement. To do this, you may apply any of the following:

- arts and sciences credit above the minimum required
- career component credit above the minimum required
- elective credit

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. 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 two credits in physical education activity courses may be applied to the degree.

Associate in Science in Business

This degree is appropriate for you if your future plans include a career that requires an associate degree. Because our Associate in Science in Business articulates fully with the Excelsior College bachelor's degrees, it is also an appropriate step toward a bachelor's degree in business. Refer to Chart 2 on page 12 for a graphic representation of required credit for the Associate in Science in Business. A description of outcomes and specific degree requirements follows.

Program Outcomes

Upon successful completion of the Excelsior College Associate in Science in Business program, the graduate will be able to:

1. Demonstrate effective oral and written communication skills.
2. Demonstrate a fundamental comprehension of the principles of accounting, business law, computers, management, and marketing.
3. Demonstrate a basic comprehension of the principles of macroeconomics, microeconomics, and statistics.
4. Apply quantitative fundamentals to solve business-related problems.
5. Demonstrate a comprehension of diverse cultural heritage, interpersonal relationships, the relationship between business and society, and personal values to make intelligent and discerning judgements.
6. Demonstrate a proficiency in computer applications used in business.

Degree Requirements

60 credits

The Associate in Science in Business requires a minimum of 60 credits, distributed as follows:

- 33 credits minimum in the arts and sciences
- 21 credits minimum in the business component
- 6 credits of electives (to include information literacy)

Note: Where an Excelsior College exam or course will satisfy a requirement, it is shown in [brackets]. Excelsior College® Examinations (ECE) have an "x" after the department; for example, [BUSx310 Ethics: Theory & Practice].

I. Arts and Sciences Component

Arts and sciences are those areas of study classified as humanities, social sciences/history, and natural sciences/mathematics. The Associate in Science in Business requires a minimum of 33 credits in the arts and sciences distributed as follows:

Humanities

A minimum of 6 credits is required in this area. At least 3 credits must be earned in disciplines other than writing, such as art, music, literature, foreign language, philosophy, religion, and speech, etc. Examinations or courses used to satisfy the written English requirement may not be applied toward the humanities requirement.

Social Sciences/History

A minimum of 12 credits is required in this area. At least two courses (minimum of 6 credits total) must be earned in social sciences/history **in addition to Microeconomics** and **Macroeconomics**.

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

Natural Sciences/Mathematics

A minimum of 9 credits must be earned in natural sciences/mathematics. You are required to complete one course in **Precalculus (or higher math)**, one course in **Statistics**, and **one course in a natural science**.

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

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

Arts and Sciences Electives

A maximum of 3 credits may be earned in arts and sciences electives.

Arts and Sciences Core Requirements

You must earn a grade of C or better in each of the following five areas required as part of the Associate in Science in Business program.

■ Written English Requirement

At least 3 credits must come from a course that satisfies the written English requirement (see page 3).

■ 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]

■ 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]

■ Mathematics (at the level of Precalculus or higher)

Study of exponents, logarithms, polynomial equations, solution of linear and quadratic equations in more than one unknown, determinants, matrices, permutations and combinations, mathematical induction, binomial theorem, probability, arithmetic, and geometric progressions.

Note: This course typically precedes calculus in a college math sequence. Elementary or intermediate algebra courses will not apply toward the mathematics requirement.

The mathematics requirement may be satisfied with credits from coursework in any of the following subjects: college algebra, precalculus. [MAT 116 Pre-Calculus Algebra]

■ 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 or inferential statistics. [BUS 233 Business Statistics]

Reminder: All credit you apply to the business component of your degree must have been earned fewer than 20 years prior to your enrollment date.

II. Business Component

The business component includes core requirements that help you gain basic knowledge in business administration and the underlying discipline of decision making. A grade of C or better is required for applicable credit.

The Associate in Science in Business degree requires a minimum of 21 credits in the business component.

Business Core Requirements

Following are typical course titles for the required business core courses. Refer to the course description section beginning on page 52 for content information. In general, a course or exam worth 3 credits will satisfy each core requirement.

■ Financial Accounting

Financial accounting subjects include, but are not limited to, fundamentals of accounting I, principles of accounting I. [ACC 211 Financial Accounting]

■ 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]

■ Introduction to Business Law (United States Business Law)

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

■ Computers

Subjects that may be used to satisfy this component include, but are not limited to, computer programming, computer science, data processing, introduction to management/computer information systems [BUS 221 Business Communication and Information Systems]. Word processing credit alone will not satisfy this requirement.

There are many Excelsior College courses that will apply to the computer requirement. A maximum of 6 credits in computers may be applied to the business component of the Associate in Science in Business. Please refer to our website or contact your advising team for more information on our course offerings.

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Business Programs Advising Team:

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Course/Exam Approval:

www.excelsior.edu/MessageCenter

CHART 2

Associate in Science in Business

Total Degree Credits Required: 60

AS

Arts and Sciences Component

Credit
Hours

Written English Requirement

3

Humanities Requirement

(3 credits must be in subjects other than writing)

6

Social Sciences/History Requirement

(must include **Microeconomics**, **Macroeconomics**, and 6 additional credits)

12

Natural Sciences/Mathematics Requirement

(must include a math course at the level of **Precalculus or above**, **Statistics**, and **one course in natural sciences**)

9

Arts and Sciences Electives

3

Total Arts and Sciences Component

33

Business Component

Credit
Hours

Core Requirements

Financial Accounting

Managerial Accounting

Introduction to Business Law
(United States Business Law)

Computers

Principles of Management

Principles of Marketing

BUS 295 Integrated Business and
Management Assessment (capstone)*

Business Electives

Minimum Business Component

21

Additional Credit Component

Credit
Hours

Any Collegiate-level Study

May include any excess credit in Arts and Sciences and Business areas.

Information Literacy

1

Total Additional Credit Component

6

* **BUS 295** capstone course is required and must be taken through Excelsior College. It cannot be transferred in.

■ **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]

■ **Principles of Marketing**

Subjects that may be used to satisfy this component include, but are not limited to, introduction to marketing, marketing concepts, marketing principles. [BUS 351 Marketing Concepts and Application]

■ **Integrated Business and Management Assessment Capstone**

This is the required capstone course included in the business core requirements. [BUS 295 Integrated Business and Management Assessment (capstone)]

Note: The capstone course is required and must be taken through Excelsior College and cannot be transferred in.

Business Electives

For the Associate in Science in Business, you will earn most of the required business credit for the degree in the process of completing the core coursework. You may still find room in your plan of study, however, for at least one (or more) business elective course or exam. The bachelor's degree programs provide more opportunities for business electives. Refer to the Bachelor's Degree Programs in Business section for specific information regarding those programs on pages 14–41.

■ **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 in the section titled Bachelor of Science in Business Concentrations (pp. 21–26). Courses that are either required or suggested for concentrations are considered business electives for the Associate in Science in Business.

III. Additional Credit Component

Although you may have already fulfilled the minimum credit requirements in the arts and sciences and business components of the Associate in Science in Business degree, you may still need to earn additional credit to fulfill the total credit requirement of 60 credits.

To do this, you may apply any of the following:

- Arts and sciences credit above the minimum required.
- Business credit above the minimum required.
- Free elective credit. A maximum of 2 credits from physical education activity courses may be applied to the degree.

Information Literacy Requirement

Students are expected to demonstrate competency in information literacy with successful completion of the one-credit information literacy requirement. See page 4 for more information.

Bachelor's Degree Programs in Business

For the business student, the Excelsior College School of Business & Technology offers a number of relevant bachelor's degree programs. Many focus specifically on high-growth industries with exciting career opportunities. And you may apply workplace and military training as credit, as appropriate, accelerating the path to your degree.



Excelsior College offers a virtual student chapter of the Society for Human Resource Management (SHRM). Memberships are open to currently enrolled Excelsior College students.

Requirements and Policies

Specific to the Bachelor's Degrees in Business

Every Excelsior College 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 College Bachelor of Science in Business (*with concentration*) and Bachelor of Science in Accounting (*New York State CPA Track*) are composed of three major components: arts and sciences, business, and additional credit. The three components and their respective requirements are explained in the following sections.



You are subject to the degree requirements in effect at the time of your enrollment or program/degree transfer (program transfer refers to change from one school to another; degree transfer refers to changing degrees within the same school).

The faculty reserves the right to make changes in curricular requirements as necessary to reflect professional practice. Changes may affect both enrolled and prospective students. It is your responsibility to keep informed of such changes. We make every effort to inform you of changes as they occur. Current information about degree requirements is posted on our website. Information about changes to degree requirements is also made available on our website.

The Excelsior College ***Student Policy Handbook*** is your resource for understanding the academic and administrative policies that are important to your academic success. It includes a wide range of information from 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.

Policies and procedures that apply specifically to the bachelor's programs in business are listed on the following pages. File your handbook with this program catalog and your other important academic papers for easy reference.

Note: Where an Excelsior College exam or course will satisfy a requirement, it is shown in [brackets]. Excelsior College® Examinations (ECE) have an "x" after the department; for example, [BUSx310 Ethics: Theory & Practice].

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Business Programs Advising Team:
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www.excelsior.edu/MyExcelsior, click on the Resources tab

Excelsior College Online Writing Lab (OWL):
www.excelsior.edu/OWL

Bachelor of Science in Business (with concentrations)

Bachelor of Science in Business to Master of Business Administration (Dual Degree Track)

Bachelor of Science in Accounting (New York State CPA Track)

The program educational objectives and specific degree requirements for the degree programs listed above are on the following pages.

Program Educational Objectives

As an Excelsior College bachelor's level business 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 business problems.
2. Demonstrate an individual desire and commitment to remain current with and adaptive to changing business conditions 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 business environment.
4. Communicate effectively in a professional business environment.
5. Perform ethically and professionally in business and society.
6. Attain increasing levels of responsibility and leadership in one's chosen career field.

Program Outcomes

Upon successful completion of the Excelsior College Bachelor of Science in Business program, the graduate will be able to:

1. Demonstrate comprehension of the principles of accounting, marketing, finance, management, and economics.
2. Demonstrate comprehension of the legal and social environment of business.
3. Demonstrate comprehension of the global environment of business.
4. Apply ethical considerations to the obligations and responsibilities of business.
5. Apply business tools to real-world situations.
6. Employ information literacy techniques.
7. Communicate effectively, orally and in writing.
8. Apply business concepts and functions in an integrated manner.

Reminder: All credit you apply to the business component of your degree must have been earned fewer than 20 years prior to your enrollment date.

Degree Requirements

120 credits

The Bachelor of Science requires a minimum of 120 credits, distributed as follows:

- 60 credits minimum in the arts and sciences
- 45 credits minimum in the business component
- 15 credits in the additional credit component

I. Arts and Sciences Component

Arts and sciences are those areas of study classified as humanities, social sciences/history, and natural sciences/mathematics. Excelsior College 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
- 9 credits in humanities (may include Ethics) **in addition to** credit for the written English requirement
- 15 credits in social sciences/history to include **Microeconomics** and **Macroeconomics**
- 9 credits in natural sciences/mathematics to include a math course at the level of **Precalculus** or above, **Statistics**, and one course in natural sciences
- up to 21 credits in any arts and sciences area

Note: 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. At least three credits must be in humanities subjects other than writing.

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 9 credits in the social sciences/history in addition to 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/Mathematics

You must successfully complete a minimum of 9 credits in natural sciences/mathematics to include a 3-credit course in **Precalculus (or higher math)**, a 3-credit course in **Statistics**, and a **3-credit course in a natural science**.

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

Note: 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.

■ Written English Requirement

At least 6 credits must be taken to satisfy the written English requirement (see page 3).

■ 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]

■ 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]

■ **Mathematics** (at the level of *Precalculus or higher*)

Study of exponents, logarithms, polynomial equations, solution of linear and quadratic equations in more than one unknown, determinants, matrices, permutations and combinations, mathematical induction, binomial theorem, probability, arithmetic and geometric progressions.

Note: This course typically precedes calculus in a college math sequence. Elementary or intermediate algebra courses will not apply to the mathematics requirement.

The mathematics requirement may be satisfied with credits from coursework in any of the following subjects: college algebra, precalculus. [MAT 116 Pre-Calculus Algebra]

■ **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 or inferential statistics. [BUS 233 Business Statistics]

II. Business Component

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 (if you choose a concentration). A grade of C or better is required for applicable credit.

Reminder: All credit you apply to the business component of your degree must have been earned fewer than 20 years prior to your enrollment date.

Business Component Core Requirements

Following are typical course titles for the required business core courses. Refer to the course description section of the catalog beginning on page 52. In general, a course or exam worth three credits will satisfy each core requirement.

■ **Financial Accounting**

Financial accounting subjects include, but are not limited to, fundamentals of accounting I, principles of accounting I. [ACC 211 Financial Accounting]

■ **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]

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www.excelsior.edu/MyExcelsior, click on the Resources tab

Excelsior College Community Resources:

www.excelsior.edu/MyExcelsior, click on Communities tab

■ **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]

Non-CPA concentration students may apply credit from a course in business law or legal environment of business.

■ **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. [BUS 221 Business Communication and Information Systems]

There are many Excelsior College 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 may be applied to the business component of all baccalaureate business degrees (with the exception of the Bachelor of Science in Business with a concentration in Management Information Systems).

■ **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 240 Principles of Management, BUS 341 Management Concepts and Applications]

■ **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 250 Principles of Marketing, BUS 351 Marketing Concepts and Application]

■ **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]

Note: Courses in personal finance will not satisfy this requirement.

■ **Production/Operations Management**

Subjects that may be used to satisfy this business component core requirement include, but are not limited to, introduction to operations management, operations management, production management. [BUS 425 Operations Management]

■ **Business Strategy (capstone)**

[BUS 495 Business Strategy (capstone)]

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

Additional Business Component Requirements

All students in the **Bachelor of Science in Business (with concentrations)** and **Bachelor of Science in Accounting (New York State CPA Track)** programs must complete coursework in the areas of ethics and organizational behavior. Upper-level business coursework is also required. To be considered upper level, a course must be taken at a four-year college or university and must be junior or senior level. Credit earned at community or junior colleges is never considered applicable toward upper-level Excelsior College baccalaureate degree requirements. Specific descriptions of the required subject areas follow.

■ **Ethics**

Subjects that may be used to satisfy this component include, but are not limited to, business ethics, introduction to ethics, biomedical ethics. [BUS 323 Business Ethics, BUSx310 Ethics Theory & Practice]

Note: Depending on the content, the ethics course may be classified as business credit or as arts and sciences credit.

■ **Organizational Behavior**

Subjects that may be used to satisfy this component include, but are not limited to, behavior in organizations. [BUS 311 Organizational Behavior, BUSx315 Organizational Behavior]

Note: Depending on the content, the organizational behavior course may be classified as business credit or as arts and sciences credit.

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 (pages 21–26 in this catalog). 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 College 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 PONSIS) and accepted by the Excelsior College business faculty as upper level.

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

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

- Business Communication
- Business Writing
- Consumer Finance
- Personal Finance

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

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

III. Additional Credit Component

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 Requirement

Students are expected to demonstrate competency in information literacy. See page 4 for more information about the information literacy requirement.

Note: Where an Excelsior College® Examination or course will satisfy a requirement, it is shown in [brackets]. Excelsior College Examinations have an “x” after the department, e.g., [BUSx310 Ethics: Theory & Practice].

Bachelor of Science in Business Concentrations

There are requirements that apply to all Bachelor of Science degree programs in business and accounting. Refer to pages 15–20 for a description of requirements common to these degrees. In addition to those common requirements, you must also satisfy requirements specific to your chosen concentration. Those specific degree requirements are found on the following pages. Charts relevant to each concentration begin on page 31 and provide a graphic representation of the credit needed to fulfill all the requirements for each concentration.

The baccalaureate degree program in business offers the following concentrations:

- Finance
- General Accounting
- General Business
- Global Business
- Management of Human Resources
- Marketing
- Operations Management
- Management Information Systems
- Risk Management and Insurance

Finance

See Chart 5, page 33.

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 College 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

15 credits are required in this concentration area. At least **9** must be upper level.

- I. Required Subjects
 - A. Advanced Financial Management (sometimes called Advanced Corporate Finance) [BUS 415 Advanced Financial Management]
 - B. Financial Markets and Institutions (or Money and Banking)
 - C. Securities Analysis (or Portfolio Management) [BUS 437 Security Analysis & Investments]
- II. Additional credit in the concentration may be earned from courses such as commercial banking management, international finance, management of financial institutions, real estate, risk and insurance, and other related courses (with approval). [BUS 317 International Finance]

General Business

See Chart 4, page 32.

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 College 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.

General Accounting

See Chart 5, page 33.

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. Excelsior College offers both a general accounting concentration and a New York State CPA track accounting degree. See page 27 for a description of the Bachelor of Science in Accounting, New York State CPA track degree.

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 College Bachelor of Science in Business with a General Accounting Concentration, the graduate will be able to:

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:

15 credits are required in this concentration area. At least **9** must be upper level.

- I. Required Subjects
 - A. Intermediate Accounting I
[ACC 314 Intermediate Accounting I]
 - B. Intermediate Accounting II
[ACC 315 Intermediate Accounting II]
 - C. Cost Accounting
[ACC 360 Cost Accounting]
 - D. Taxation (United States tax)
- II. Additional credit in the concentration may be earned from courses such as advanced accounting, auditing, fund accounting, international accounting, and other related courses with approval. [ACC 350 Fraud Prevention and Detection, ACC 400 Auditing]

Global Business

See Chart 5, page 33.

The curriculum for the study of global business presents an overview of the current problems and methods of analysis related to the global operations of a business. It focuses on the basic tools of analysis in global operations such as global economic analysis and analysis of the global business environment. It also incorporates study of the techniques of market penetration abroad and the evaluation of

investments and financial sources. Expertise in the concentration opens career opportunities in a challenging business world that demands knowledge of global business and economic trends. Such opportunities include entry-level positions in domestic marketing and finance as well as management or entry-level global business positions.

Concentration Outcomes

Upon successful completion of the Excelsior College Bachelor of Science in Business with a Global Business Concentration, the graduate will be able to:

1. Describe the fundamental tools to examine current issues in global operations and international economies.
2. Integrate the techniques of market penetration abroad and the impact they would have on investments and financial resources.
3. Evaluate the nature and scope of international business, including the institutional, socio cultural, political, legal, ethical, and foreign investment.

Subject Requirements for the Global Business Concentration

15 credits are required in this concentration area. At least **9** must be upper level.

- I. Required subjects—Business
 - A. International Business
[BUS 435 International Business]

and two of the following three:

 - B. International Economics (or International Trade) [ECON 360 International Economics]
 - C. International Finance [BUS 317 International Finance]
 - D. International Marketing [BUS 343 International Marketing]
- II. Additional credit in the concentration may be earned from courses such as export/import management, foreign market analysis, intercultural communication, international accounting, international banking/international monetary theory, international business

ethics, international strategy, multinational management, and other related courses, with approval.

III. Required subjects—Arts and Sciences (applicable only to arts and sciences component requirements—not applicable to the 15 credits in the concentration)

- A. International Relations (International Politics) [POL 360 International Politics]
- B. Two semesters of the same foreign language

Management of Human Resources

See Chart 5, page 33.

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 College 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

15 credits are required in this concentration area. At least **9** must be upper level.

- I. Required Subjects

- A. Labor Relations [BUSx360 Labor Relations, BUS 315 Labor Relations]
 - B. Organizational Behavior [BUSx315 Organizational Behavior, BUS 311 Organizational Behavior]
 - C. Personnel Administration (sometimes called Human Resource Management [BUSx410 Human Resource Management, BUS 312 Managing Human Resources])
- II. Additional credit in the concentration may be earned from courses such as collective bargaining, human resource development, industrial psychology, labor economics, organizational development, training and development, and other related courses (with approval), BUS 380 Managing Diversity in the Workplace, BUS 452 Business Leadership, SOC 318 Sociology of the Workplace, BUS 325 Women in Business.

Management Information Systems

See Chart 6, page 34.

The management information systems curriculum is designed to prepare you for a career as a management-oriented, technically proficient information systems professional. It provides an overview of systems design, programming, and implementation. Career options are extensive. Graduates in this field are in demand as information systems consultants, programmer analysts, and computer specialists in a wide range of public and private organizations.

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www.excelsior.edu/exams

Course/Exam Approval:
www.excelsior.edu/MessageCenter

Excelsior College Learning Resources:
www.excelsior.edu/library
www.excelsior.edu/bookstore
www.excelsior.edu/MyExcelsior, click on the Resources tab

Concentration Outcomes

Upon successful completion of the Excelsior College Bachelor of Science in Business with a Management of Information Systems Concentration, the graduate will be able to:

1. Identify emerging technologies and tools for information technology solutions.
2. Integrate information technologies-based solutions to meet user needs.
3. Apply best practices and standards for information technology applications.

Subject Requirements for the Management Information Systems Concentration

18 credits are required in this concentration area. At least **9** must be upper level.

- I. Required Subjects
 - A. A business programming language (C, C++, JAVA) [IT 210 Object Oriented Programming]
 - B. Database Management [IT 370 Database Management Systems]
 - C. Data Communications or Telecommunications or Networking [IT 350 Business Data Communication]
 - D. Systems Analysis and Design [IT 418 Software Systems and Design]
- II. Additional credits in the concentration

The faculty encourage students to design one of two Management Information System (MIS) career tracks, either managerial or technical. An **MIS managerial track** can be created by choosing courses such as decision support systems, systems integration, project management, information systems management, systems design and implementation/integration, expert systems, Visual BASIC, executive management systems, information systems planning, information resource management, and an MIS project/seminar or internship.

An **MIS technical track** can be created by choosing courses such as operating systems, advanced programming languages, data structures, compiler design, knowledge-based/expert

systems, artificial intelligence, computer simulation, advanced database, and an MIS project/seminar or internship.

There are several Excelsior College courses that will apply to the additional credit requirement. Refer to our website or contact your advising team for more information.

Note: Where an Excelsior College® Examination or course will satisfy a requirement, it is shown in **[brackets]**. Excelsior College Examinations have an “x” after the department, e.g., **[BUSx310 Ethics: Theory & Practice]**.

Marketing

See Chart 5, page 33.

Marketing includes all activities required to direct the flow of products and services from producers to consumers. It includes marketing research, which entails interpreting conditions in the marketplace and forecasting future trends; the development of strategies to ensure demand for a product or service; analysis of how consumers behave; advertising and promotion; distribution of goods; and the utilization of effective selling methods. Career opportunities in marketing include product or brand management, retail/wholesale management, industrial marketing, advertising, and market information systems analysis.

Concentration Outcomes

Upon successful completion of the Excelsior College 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

15 credits are required in this concentration area. At least **9** must be upper level.

I. Required Subjects

- A. Consumer Behavior **[BUS 225 Consumer Behavior]**
- B. Marketing Management (sometimes called Product Planning)
- C. Market Research

II. 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]**

Operations Management

See Chart 5, page 33.

The concentration in operations management is designed for students interested in the production of goods and services and the application of quantitative methods to solve business problems in this area of increasing importance in the world economy. Business problems analyzed in this field of management include inventory control, facilities planning and location, and productivity analysis. Employment opportunities include production planning or scheduling, inventory management, and manufacturing management.

Concentration Outcomes

Upon successful completion of the Excelsior College Bachelor of Science in Business with an Operations Management Concentration, the graduate will be able to:

1. Describe inventory control, facilities planning and location, and the warehousing, industrial packaging and distribution of finished goods in terms of reducing costs, maximizing profits, and increasing customer service satisfaction.

2. Integrate quantitative methods to solve business and management problems and use data for decision-making processes.
3. Evaluate the design and implementation of supply chain systems and the impact on ethical issues.

Subject Requirements for the Operations Management Concentration

15 credits are required in this concentration area. At least **9** must be upper level.

Credit in this concentration may be earned from courses such as advanced production management, forecasting, inventory control management, logistics, operations research/management science, production planning, production system design, purchasing, quality control, service control management, simulation, and other related courses (with approval) [**BUS 430 Quantitative Methods, BUS 440 Business Supply Chain Management, IT 390 Project Management, BUS 360 Product Planning, Process, and Quality Control**]

Risk Management and Insurance

See Chart 5, page 33.

The concentration in risk management and insurance is designed to help students develop a working understanding of the risk management process and the interrelationship between insurance theory and practice. It focuses on the analysis and treatment of loss and offers insight into how risk management objectives support organizational objectives. It also incorporates study of the global environment for insurance including emerging issues and trends related to international trade and commerce.

Concentration Outcomes

Upon successful completion of the Excelsior College Bachelor of Science in Business with a Risk Management and Insurance Concentration, the graduate will be able to:

1. Describe effective strategies for controlling and managing risk management.

2. Integrate ethical decision-making concepts and applications of risk management into global business environments.
3. Evaluate life/health and/or property/casualty insurance policies for compliance with regulations and standards.

Subject Requirements for the Risk Management and Insurance Concentration

15 credits are required in this concentration area. At least **9** must be upper level.

I. Required Subjects

- A. Principles of Risk Management
- B. Risk Control or Risk Finance
- C. Principles of Insurance (or Principles of Life/Health Insurance or Principles of Property/Casualty Insurance)

II. Additional Credit in the Concentration

The faculty encourage students to design one of three career tracks: life/health insurance, property/liability insurance, or corporate risk management.

A **life/health insurance track** can be created by choosing courses such as group insurance—medical, dental, prescription drug, or group insurance—life, disability, travel.

A **property/casualty insurance track** can be created by selecting courses in business interruption, transportation (air, automotive, ocean) insurance, or catastrophic (fire, flood, wind, earthquake, theft) insurance.

A **corporate risk management track** can be created by choosing courses such as product liability and self-insurance and retention. Other risk management/insurance electives include social insurance, comparative insurance programs, reinsurance, actuarial studies, international studies in insurance, and other related courses (with approval).

Bachelor of Science in Accounting

New York State CPA Track

See Chart 7, page 35.

The Excelsior College CPA accounting program is registered as meeting the educational requirements necessary to qualify its graduates to sit for the CPA examination in New York state. If you are interested in sitting for the CPA examination in another state, you should contact that state's Board of Accounting for its specific educational requirements for admission to the examination, including the acceptability of online courses and proficiency examinations.

Program Outcomes

Upon successful completion of the Excelsior College Bachelor of Science in Accounting program, the graduate will be able to:

1. Demonstrate comprehension of the principles of accounting, marketing, finance, management, and economics.
2. Describe generally accepted accounting concepts, theories, and applications.
3. Demonstrate comprehension of the legal and social environment of business.
4. Demonstrate comprehension of the global environment of business.
5. Apply ethical considerations to the obligations and responsibilities of business.
6. Employ information literacy techniques.
7. Communicate effectively, orally and in writing.
8. Apply business tools to real-world situations.
9. Apply business concepts and functions in an integrated manner.
10. Evaluate individual and corporate taxation policies, regulations, and practices of business organizations.
11. Analyze advanced financial and accounting management strategies and applications.

12. Integrate advanced accounting decision-making tools for evaluating financial statements, conducting audits, and performing cost accounting.

Subject Requirements for the Accounting, New York State CPA Track

To qualify to sit for the New York State CPA examination, you must complete **45** credits in this area.

I. Required Subjects

- A. Intermediate Accounting I
[ACC 314 Intermediate Accounting I]
- B. Intermediate Accounting II
[ACC 315 Intermediate Accounting II]
- C. Cost Accounting
[ACC 360 Cost Accounting]
- D. Taxation—Individual[†] (United States tax)
- E. Taxation—Corporate[†] (United States tax)
- F. Advanced Accounting[‡] (covering both partnerships and consolidations)
- G. Auditing[†] (professional, not internal auditing) [ACC 400 Auditing]
- H. Business Law II
(United States business law only)
- I. Finance II
- J. Advanced Finance for Management[‡]
[BUS 505 Finance]
- K. Accounting Theory[‡]
- L. Advanced Financial Statement Analysis[‡]
[BUS 500 Accounting for Managers]
- M. Research of Current Topics in Accounting[‡]
- N. Advanced Auditing[‡]
- O. Computer Science (3 credits in addition to the core requirement in computers)

[†] Some institutions cover tax or auditing in one comprehensive course. Others cover these subjects in two or more courses. If you take one course to cover this requirement, it must be an upper-level course from a four-year school or an approved proficiency examination. If you take a two-course sequence, at least one of the courses must be an upper-level course from a four-year school or an approved proficiency examination.

[‡] Must be an upper-level course from a four-year school or approved proficiency examination.

Bachelor of Professional Studies

in Business and Management

See Chart 3, page 31.

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 College associate in applied science programs in business and technology. As with other bachelor's programs in the School of Business & Technology, credit is awarded for Excelsior College courses and examinations, courses taken at accredited institutions other than Excelsior, approved proficiency exams, and 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 College 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.

The outcomes and specific degree requirements for the *Bachelor of Professional Studies in Business and Management* follow.

Program Outcomes

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

1. Use commonly available workplace technology tools to communicate professional information in clear, grammatical, and effective written prose.
2. Develop and communicate cohesive arguments using appropriate supporting evidence and effective prose.
3. Interpret events using more than one perspective, with an understanding of the significance of integrating knowledge and skills in the workplace.
4. Identify, critically evaluate, and propose solutions for management problems.
5. Apply knowledge of mathematics and natural sciences to problem-solving in management contexts.
6. Demonstrate an awareness of the implications of ethics and social responsibility on the individual, the organization, and society.
7. Demonstrate information literacy.
8. Participate effectively in groups.
9. Apply project management techniques where appropriate.
10. Analyze business issues in the global environment.
11. Demonstrate understanding of the relationship between culture and human behavior in the workplace.
12. Use business tools to solve business and management problems.
13. Apply business and management concepts in an integrated manner.

Requirements for the Bachelor of Professional Studies in Business and Management

Every Excelsior College 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 College Bachelor of Professional Studies in Business and Management degree program comprises three major components: arts and sciences; professional; and additional credit. The three components and their respective requirements are explained in the following sections.

Note: 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.

I. Arts and Sciences Component — 30 credits, including 9 upper-level

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

Written English Requirement

At least 6 credits must come from courses that satisfy the written English requirement (see page 3).

Humanities

You must successfully complete at least 9 credits in the humanities, including ethics [BUS 323 Business Ethics, BUSx310 Ethics: Theory and Practice].

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 6 credits in the social sciences/history.

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

Note: Where an Excelsior College® Examination or course will satisfy a requirement, it is shown in [brackets]. Excelsior College Examinations have an “x” after the department, e.g., [BUSx310 Ethics: Theory & Practice].

Natural Sciences/Mathematics

You must successfully complete a minimum of 6 credits in mathematics to include a 3-credit course in either College Algebra at the level of precalculus or above [MAT 116 Precalculus Algebra] or Statistics [BUS 233 Business Statistics].

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

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

II. 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 College 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 [BUS 221 Business
Communication and Information Systems]

Project Management [IT 390 Project
Management]

■ Business and Management Core

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

Human Resources Management
[BUS 312 Managing Human Resources, BUS 410
Human Resource Management]

Marketing [BUS 351 Marketing Concepts and
Application]

Finance [BUS 350 Principles of Finance]

Organizational Behavior
[BUS 311 Organizational Behavior,
BUSx315 Organizational Behavior]

Global Business
[BUS 435 International Business]

**Integrated Business and Management
Assessment Capstone** [BUS 490 Integrated
Business and Management Assessment
(capstone)]. The capstone course is required and
must be taken through Excelsior College. It cannot
be transferred in.

■ Professional Component Electives

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.

III. 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 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 two credits for physical education activity courses may be applied.

Information Literacy Requirement

Information Literacy	1 credit
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Students are expected to demonstrate competency in information literacy. See page 4 for more information about the information literacy requirement. The information literacy requirement is applied to the additional credit component.

CHART 3

Bachelor of Professional Studies in Business and Management

Total Degree Credits Required: 120
Total Upper-Level (UL) Credits Required: 30

BPS

Arts and Sciences Component

(Minimum of 9 UL credits)

Credit
Hours

Written English Requirement

6

Humanities Requirement

9

Ethics and 6 credits in Humanities Electives

Social Sciences/History Requirement

6

Social Sciences/History Electives

Natural Sciences/Mathematics Requirement

3

College Algebra or Statistics

3

Mathematics Elective

3

Natural Science Elective

**Minimum Arts and
Sciences Component**

30

Additional Credit Component

(Minimum of 6 UL credits)

Credit
Hours

Any Collegiate-level Study

May include any excess credit in
Arts and Sciences, Business, or any
approved free elective area

Information Literacy

1

Total Additional Credit Component

45

Professional Component

(Minimum of 15 UL credits; a minimum of
9 UL credits must be in the Business and
Management Core or Professional Electives)

Credit
Hours

Professional Core

1. General Management

2. Leadership

3. Accounting

4. Computer Applications

5. Project Management

Business and Management Core

1. Human Resource Management

2. Marketing

3. Finance

4. Organizational Behavior

5. Global Business

6. Integrated Business and
Management Assessment (capstone)*

Professional Component Electives

**Minimum Professional
Component Requirement**

45

* **BUS 490 Integrated Business and
Management Assessment** is the required
capstone course and must be taken through
Excelsior College and cannot be transferred in.

CHART 4

Bachelor of Science in Business, General Business Concentration

Total Degree Credits Required: 120

BS

Arts and Sciences Component

Credit Hours

Written English Requirement

Humanities Requirement
(must complete a minimum of 6 credits, which may include Ethics*)

Social Sciences/History Requirement
(must include **Microeconomics**, **Macroeconomics**, and 9 additional credits)

Natural Sciences/Mathematics Requirement
(must include a math course at the level of **Precalculus or above**, **Statistics**, and a **natural science course**)

Remaining Arts and Sciences Credit
(may be taken from any areas of humanities, social sciences, history, natural sciences, or math)

6

9

15

9

up to 21

Minimum Arts and Sciences Component

60

Additional Credit Component

Credit Hours

Any Collegiate-level Study
May include any excess credit in Arts and Sciences and Business areas.

Information Literacy

1

Total Additional Credit Component

15

Business Component

Credit Hours

Business Core Requirements

Financial Accounting
Managerial Accounting
Introduction to Business Law (United States Business Law)
Computers
Principles of Management
Principles of Marketing
Financial Management
Production/Operations Management
Business Strategy (capstone)**

Organizational Behavior Requirement
Organizational Behavior*

Ethics Requirement
Ethics*

Upper-level Business Credit

Must complete a minimum of 21 upper-level credits in the business component.

Minimum Business Component

45

* Depending on the content, the **Ethics** and **Organizational Behavior** courses may be classified as business credit or as arts and sciences credit.

** **BUS 495 Business Strategy** is the required capstone course and must be taken through Excelsior College and cannot be transferred in.

CHART 5

Basic pattern for Bachelor of Science with the following specific concentration areas: Finance, General Accounting, Global Business, Management of Human Resources, Marketing, Operations Management, and Risk Management and Insurance

Total Degree Credits Required: 120

BS

Arts and Sciences Component

Credit Hours

Written English Requirement

6

Humanities Requirement

(must complete a minimum of 9 credits, which may include Ethics *)

9

Social Sciences/History Requirement

(must include **Microeconomics**, **Macroeconomics**, and 9 additional credits)

15

Natural Sciences/Mathematics Requirement

(must include a math course at the level of **Precalculus or above**, **Statistics**, and a course in a natural science)

9

Remaining Arts and Sciences Credit

(may be taken from any areas of humanities, social sciences, history, natural sciences, or math)

up to 21

Minimum Arts and Sciences Component

60

Additional Credit Component

Credit Hours

Any Collegiate-level Study

May include any excess credit in Arts and Sciences and Business areas.

Information Literacy

1

Total Additional Credit Component

15

Business Component

Credit Hours

Business Core Requirements

Financial Accounting

Managerial Accounting

Introduction to Business Law (United States Business Law)

Computers

Principles of Management

Principles of Marketing

Financial Management

Production/Operations Management

Business Strategy (capstone) **

Organizational Behavior Requirement

Organizational Behavior *

Ethics Requirement

Ethics *

Concentration Requirement

Must complete 15 credits in the concentration area of which 9 must be upper level.

Upper-level Business Credit

Must complete a minimum of 21 credits at the upper level of which 9 must be in the concentration. The remaining 12 credits may be earned in the business component.

Minimum Business Component

45

* Depending on the content, the **Ethics** and **Organizational Behavior** courses may be classified as business credit or as arts and sciences credit.

** **BUS 495 Business Strategy** is the required capstone course and must be taken through Excelsior College and cannot be transferred in.

CHART 6

Bachelor of Science in Business, Management Information Systems Concentration

Total Degree Credits Required: 120

BS

Arts and Sciences Component

Credit Hours

Written English Requirement

6

Humanities Requirement

(must complete a minimum of 9 credits, which may include Ethics *)

9

Social Sciences/History Requirement

(must include **Microeconomics**, **Macroeconomics**, and 9 additional credits)

15

Natural Sciences/Mathematics Requirement

(must include a math course at the level of **Precalculus or above**, **Statistics**, and a **natural science course**)

9

Remaining Arts and Sciences Credit

(may be taken from any areas of humanities, social sciences, history, natural sciences, or math)

up to 21

Minimum Arts and Sciences Component

60

Additional Credit Component

Credit Hours

Any Collegiate-level Study

May include any excess credit in Arts and Sciences and Business areas.

Information Literacy

1

Total Additional Credit Component

15

* Depending on the content, the **Ethics** and **Organizational Behavior** courses may be classified as business credit or as arts and sciences credit.

** **BUS 495 Business Strategy** is the required capstone course and must be taken through Excelsior College and cannot be transferred in.

Business Component

Credit Hours

Business Core Requirements

Financial Accounting

Managerial Accounting

Introduction to Business Law (United States Business Law)

Computers

Principles of Management

Principles of Marketing

Financial Management

Production/Operations Management

Business Strategy (capstone) **

Organizational Behavior Requirement

Organizational Behavior *

Ethics Requirement

Ethics *

Concentration Requirement

Must complete a minimum of 18 credits in the concentration area of which 9 must be upper level.

A business programming language such as C, C++, or PASCAL

Database Management

Data Communications

or

Telecommunications

or

Networking

Systems Analysis and Design

Upper-level Business Credit

Must complete a minimum of 21 credits at the upper level, 9 of which must be in the concentration. The remaining 12 credits may be earned in the business component.

Minimum Business Component

45

CHART 7

Bachelor of Science in Accounting, New York State CPA Track

Total Degree Credits Required: 150

BS

Arts and Sciences Component

Credit Hours

Written English Requirement

6

Humanities Requirement

(must complete a minimum of 9 credits, which may include Ethics *)

9

Social Sciences/History Requirement

(must include **Microeconomics**, **Macroeconomics**, and 9 additional credits)

15

Natural Sciences/Mathematics Requirement

(must include a math course at the level of **Precalculus or above**, **Statistics**, and a **natural science course**)

9

Remaining Arts and Sciences Credit

(may be taken from any areas of humanities, social sciences, history, natural sciences, or math)

up to 21

Minimum Arts and Sciences Component

60

Additional Credit Component

Credit Hours

Any Collegiate-level Study

May include any excess credit in Arts and Sciences and Business areas.

Information Literacy

1

Total Additional Credit Component

15

* Depending on the content, the **Ethics** and **Organizational Behavior** courses may be classified as business credit or as arts and sciences credit.

** **BUS 495 Business Strategy** is the required capstone course and must be taken through Excelsior College and cannot be transferred in.

† Refer to page 27 for specific information about this requirement.

‡ Refer to page 27 for specific information about this requirement.

Business Component

Credit Hours

Business Core Requirements

Financial Accounting (minimum 3 credits)

Managerial Accounting (minimum 3 credits)

Introduction to Business Law (United States Business Law) (minimum 3 credits)

Computers

Principles of Management

Principles of Marketing

Financial Management (minimum 3 credits)

Production/Operations Management

Business Strategy (capstone) **

Organizational Behavior Requirement

Organizational Behavior *

Ethics Requirement

Ethics *

CPA Track Requirements

Intermediate Accounting I

Intermediate Accounting II

Cost Accounting

Taxation I—Individual (United States tax) †

Taxation II—Corporate (United States tax) †

Advanced Accounting (partnerships and consolidations) ‡

Auditing (professional, not internal) †

Business Law II (U.S. business law only)

Finance II

Advanced Finance for Management ‡

Accounting Theory ‡

Advanced Financial Statement Analysis ‡

Research of Current Topics in Accounting ‡

Advanced Auditing †

Computer Science (3 credits)

Minimum Business Component

75

Baccalaureate Degree Programs

Baccalaureate Degree Programs in Business

Bachelor of Science in Business to Master of Business Administration Dual Degree Track

The dual degree track requires a total of **147** credits. Students are awarded their bachelor's degree by completing **60** credits in the arts and sciences component, **48** credits in the business component, and **6** credits in the additional credit component. Students achieve graduate status after completion of the **6**-credit bridge component. The **27**-credit graduate course component completes the master's degree requirements.



Important Note: You are subject to the degree requirements in effect at the time of your enrollment or program/degree transfer (program transfer refers to change from one school to another; degree transfer refers to changing degrees within the same school).

The faculty reserves the right to make changes in curricular requirements as necessary to reflect current professional practice. Changes may affect both enrolled and prospective students. It is your responsibility to keep informed of such changes. We make every effort to inform you of changes as they occur. Current information about degree requirements is posted on our website. Information about changes to degree requirements is also made available on our website.

Program Educational Objectives

As an Excelsior College bachelor's level business 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 business problems.
2. Demonstrate an individual desire and commitment to remain current with and adaptive to changing business conditions 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 business environment.
4. Communicate effectively in a professional business environment.
5. Perform ethically and professionally in business and society.
6. Attain increasing levels of responsibility and leadership in one's chosen career field.

Note: Throughout this catalog the term "credits" is used to indicate semester hours. Quarter hours are converted to semester hours by multiplying quarter-hour values by two-thirds.

Program Outcomes

Upon successful completion of the Excelsior College Bachelor of Science in Business program, the graduate will be able to:

1. Demonstrate comprehension of the principles of accounting, marketing, finance, management, and economics.
2. Demonstrate comprehension of the legal and social environment of business.
3. Demonstrate comprehension of the global environment of business.
4. Apply ethical considerations to the obligations and responsibilities of business.
5. Apply business tools to real-world situations.
6. Employ information literacy techniques.
7. Communicate effectively, orally and in writing.
8. Apply business concepts and functions in an integrated manner.

Upon successful completion of the Excelsior College Master of Business Administration program, the graduate will be able to:

1. Analyze real-world business problems and generate recommendations for action.
2. Integrate accounting, marketing, finance, management, and economics into a strategic business analysis.
3. Assess the impact of the global business environment on business situations.
4. Apply quantitative methods to analysis of business situations.
5. Perform ethically and professionally in business and society.
6. Communicate effectively to relevant audiences orally and in written materials.
7. Collaborate in teams to produce required deliverables.
8. Apply project management skills to business situations.
9. Assess the ethical implications of actions for diverse stakeholders.

Dual Degree Track Requirements

Arts and Sciences Component

60 credits

1. Written English Requirement

A minimum of 6 credits must be earned in English composition using approved examinations and/or courses. See the written English requirement explanation on page 3 for additional information.

2. Humanities

- a. A minimum of 3 credits must be earned in Business Ethics* [BUS 323 Business Ethics] with a minimum grade of B.
- b. A minimum of 6 credits must be earned in other humanities subjects such as art, literature, business ethics [BUS 323 Business Ethics], philosophy, religion, theatre, speech, and foreign languages.

3. Social Sciences/History

- a. A minimum of 3 credits must be earned in Microeconomics with a minimum grade of C.
- b. A minimum of 3 credits must be earned in Macroeconomics with a minimum grade of C.
- c. A minimum of 9 credits must be earned in other social science/history subjects including geography, economics, cultural anthropology, political science, sociology, and psychology.

4. Natural Sciences/Math

- a. A minimum of 3 credits must be earned in Statistics with a minimum grade of C.
- b. A minimum of 3 credits must be earned in College Algebra (at the level of Precalculus or above) with a minimum grade of C.

* Must be completed at the upper level.

- c. A minimum of 3 credits must be earned in natural sciences. Subjects comprising this category include topics in biology, chemistry, genetics, and physics.

5. Arts and Sciences Electives

An additional 21 credits must be completed in the arts and sciences areas of the humanities, social sciences/history, or natural sciences/math. Students may distribute these credits across the arts and sciences subjects in any fashion.

Additional Credit Component

6 credits

1. Information Literacy

A minimum of 1 credit must be earned in information literacy. See the information literacy requirement explanation on page 4 for more information.

2. Other College-Level Credit

A minimum of 5 (determined by concentration) 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.

Note: Where an Excelsior College® Examination or course will satisfy a requirement, it is shown in [brackets]. Excelsior College Examinations have an “x” after the department, e.g., [BUSx310 Ethics: Theory & Practice].

Business Component

48 credits

1. Business Core

Three credits in each of the following subjects must be earned with minimum grades of C:

- a. Financial Accounting
[ACC 211 Financial Accounting]
- b. Managerial Accounting
[ACC 212 Managerial Accounting]
- c. Introduction to Business Law (U.S.)
[BUS 230 Business Law]
- d. Computers [BUS 221 Business Communication and Information Systems]
- e. Principles of Management
[BUS 341 Management Concepts and Applications]
- f. Entrepreneurial Marketing
[BUS 310 Entrepreneurial Marketing]
- g. Financial Management
[BUS 350 Principles of Finance]
- h. Production/Operations Management
[BUS 425 Operations Management]
- i. Organizational Behavior
[BUS 311 Organizational Behavior]
- j. Quantitative Methods
[BUS 430 Quantitative Methods]
- k. Business Strategy (capstone)
[BUS 495 Business Strategy (capstone)].
The capstone course is required and must be taken through Excelsior College. It cannot be transferred in.

2. Business Concentration/Electives

Fifteen to 18 credits are required (see concentration requirements).

Bridge Component

6 credits

1. Business Communications
[BUS 501 Business Communications]
2. Global Business Environment
[BUS 502 Global Business Environment]

Graduate Component

27 credits

1. Accounting for Managers
[BUS 500 Accounting for Managers]
2. Human Resources Management
[BUS 504 Human Resource Management]
3. Operations Management
[BUS 520 Operations Management]
4. Leadership/Change Management
[BUS 552 Leadership or BUS 554 Change Management]
5. Information Technology
[BUS 570 Information Technology]
6. Strategy and Policy (capstone)
[BUS 511 Strategy and Policy] (capstone)
The capstone course is required and must be taken through Excelsior College. It cannot be transferred in.
7. Business Electives or Concentration
(see concentration requirements)

Policies Specific to the BS in Business to MBA Dual Track Program

The Excelsior College **Student Policy Handbook** is your resource for understanding the academic and administrative policies that are important to your academic success. It includes a wide range of information from 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.

BS in Business/MBA

- Minimum grades of B are required for each of the five MBA foundational courses (Business Ethics, Quantitative Analysis, Organizational Behavior, Marketing, and Finance). These courses must be upper level and no older than 10 years.
- Minimum grades of C are required in each of the courses composing the business core areas for the Bachelor of Science.
- Students must be within 10 credits of completing the undergraduate component in order to enroll in the bridge courses.
- A minimum grade point average (GPA) of 2.0 is required to move forward with the graduate course component.
- Students must complete all undergraduate requirements in order to move forward with the graduate component courses. (A minimum GPA of 3.0 is required to complete the MBA.)
- Upon completion of all undergraduate requirements, students have two options:

- *1. Continue in the program and receive both the Bachelor of Science in Business and MBA at the conclusion of the graduate studies.

OR

- *2. Receive the bachelor's degree. If students wish to pursue the MBA within 12 months after Bachelor of Science in Business conferral, they will not be required to apply for admission to the MBA program.

The student will be required to apply to the MBA program and will be subject to requirements and fees in place at that time if they wish to pursue the MBA after 12 months from the date of Bachelor of Science in Business degree conferral.

- Students may transfer up to a maximum of 24 approved graduate credits (including 15 foundation credits).
- No more than two Excelsior College MBA courses with "C" grades can be applied toward the degree; these "C" grades must be offset by "A" grades in other MBA courses.

Your Personalized MyExcelsior Account:

www.excelsior.edu/MyExcelsior

Student Policy Handbook:

www.excelsior.edu/StudentPolicyHandbook

Business Programs Advising Team:

toll free 888-647-2388, ext. 1331

Excelsior College Community Resources:

www.excelsior.edu/MyExcelsior, click on Communities tab

Excelsior College Learning Resources:

www.excelsior.edu/library

www.excelsior.edu/bookstore

www.excelsior.edu/MyExcelsior, click on the Resources tab

Excelsior College Online Writing Lab (OWL):

www.excelsior.edu/OWL

CHART 8

Bachelor of Science in Business to Master of Business Administration—Dual Degree Track All Concentrations

Total Degree Credits Required: 147

BSB to MBA

Baccalaureate Phase

Arts and Sciences Component

Credit Hours

Written English Requirement

6

Humanities Requirement

- **BUS 323** Business Ethics *
- Humanities Electives

9

Social Sciences/History Requirement

- Microeconomics
- Macroeconomics
- Social Science Electives (9 credits)

15

Natural Sciences/Mathematics Requirement

- Math course at level of Precalculus or above
- Statistics
- Natural Science course (3 credits)

9

Arts and Sciences Electives

21

Total Arts and Sciences Credit

60

Additional Credit Component

Credit Hours

Any College-Level Study

May include any excess credit in the arts/sciences, business, or applied professional areas.

5

Information Literacy

1

Total Additional Credit

6

Business Component

Credit Hours

Business Core Requirements

- Financial Accounting
- Managerial Accounting
- Introduction to Business Law (U.S.)
- Computers
- Principles of Management
- Principles of Marketing, **BUS 351** Marketing Concepts & Applications *
- **BUS 350** Principles of Finance *
- Production/Operations Management
- **BUS 311** Organizational Behavior *
- **BUS 430** Quantitative Methods *
- **BUS 495** Business Strategy (capstone) **

Business Concentration/Electives Requirements ***

Fifteen to 21 credits are required.

Upper-Level Business Credit

Must complete a minimum of 21 credits at the upper level. Of the 15 credits required in the concentration, 9 must be earned at the upper level.

Total Professional Credit

48

Bridge Component

Credit Hours

MBA requirements; credits apply toward the BS

BUS 501: Business Communications

6

BUS 502: Global Business Environment

Total Bridge Credit

6

Graduate Status Achieved

Students achieve graduate status upon completion of the bridge component and all other undergraduate requirements.

Graduate Course Component

Credit Hours

BUS 500 Accounting for Managers

BUS 504 Human Resources Management

BUS 520 Operations Management

BUS 570 Information Technology

BUS 552 Leadership **or**

BUS 554 Change Management

BUS 511 Strategy and Policy (Capstone) **

Electives (9 elective or concentration course credits)

27

Total Graduate Credit

27

* Must be taken at the upper level and completed with a grade of B or above within the past 10 years.

** **BUS 495** and **BUS 511** are the required capstone courses and must be taken through Excelsior College and cannot be transferred in.

*** Depending on the concentration, the distribution may vary. Please consult your advising team for details.

Graduate Degree Programs in Business

Master of Business Administration

The Excelsior College Master of Business Administration (MBA) program continues the long-standing Excelsior College model for adult higher education, which recognizes prior learning and enables self-paced study. The MBA is designed to provide a quality education to facilitate career advancement, especially for those who work in middle management positions in business and in other organizations. It emphasizes ethics, communication, and other workplace-oriented skills, and the application of theory to practical situations. Students are encouraged to build upon their existing work-based knowledge and to share this with others in their courses.

Consistent with Excelsior College's mission to provide academic opportunities that overcome barriers of time, distance, and cost, the MBA program allows students to transfer and/or waive up to 24 credits from outside sources. The School of Business & Technology offers online courses to fulfill all MBA foundation and core requirements, as well as elective and concentration options.

Upon admission to the program, each candidate receives an individualized evaluation that indicates which courses the candidate must complete to qualify for the degree. Students can complete the MBA 100 percent online.

MBA foundation requirements are designed to provide the academic background required for the core and elective courses. Upon applying to the program, up to 15 credits of foundation courses may be waived on the basis of upper level undergraduate study in the relevant areas. Newly enrolled students may also waive foundation requirements through the successful completion of online challenge examinations.

The Excelsior College MBA is the flexible, accessible, and relevant option for adults who want to enhance their career options and obtain a first-rate graduate education while maintaining family, work, and community obligations.

Program Outcomes

The Excelsior College MBA program is framed within a work-related global business setting to increase academic understanding of business topics, improve career prospects, and expand individual horizons. Students can capitalize upon their existing work-based knowledge while engaging in a process of reflective learning. This program will equip successful students to further their careers through enhanced knowledge, understanding, and application to the business environment.

Upon successful completion of the Excelsior College Master in Business Administration program, the graduate will be able to:

1. Analyze real-world business problems and generate recommendations for action.
2. Integrate accounting, marketing, finance, management, and economics into a strategic business analysis.
3. Assess the impact of the global business environment on business situations.
4. Apply quantitative methods to analysis of business situations.
5. Perform ethically and professionally in business and society.
6. Communicate effectively to relevant audiences orally and in written materials.
7. Collaborate in teams to produce required deliverables.
8. Apply project management skills to business situations.
9. Assess the ethical implications of actions for diverse stakeholders.

Policies Specific to the MBA

The Excelsior College **Student Policy Handbook** is your resource for understanding the academic and administrative policies that are important to your academic success. It includes a wide range of information from 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.

Policies and procedures that apply specifically to the MBA program are listed on the following pages. File your handbook with this program catalog and your other important academic papers for easy reference.

Admissions Policy

Students with a bachelor's degree from an accredited institution may be admitted into the Excelsior College MBA program. Students who have completed an undergraduate degree program outside the U.S. are required to submit transcripts of undergraduate and graduate work to Education Credential Evaluators Inc. (ECE). Evaluators will review your undergraduate degree program to verify that it is the equivalent to a bachelor's-level degree in the United States. Students choosing to work with ECE should request that a Course by Course Report, indicating the completion of their bachelor's degree, be conducted and forwarded to Excelsior College. In addition, any graduate courses submitted for transfer require a Subject Analysis Report. More information about ECE is available on its website at www.ece.org/excelsior.

The GMAT is not required.

Application Process

You are required to apply for admission into the Excelsior College MBA program. Visit our website at www.excelsior.edu/apply to apply online or to download the Graduate Application for Admission form. Return the completed form to Excelsior College with the nonrefundable application fee. Please submit an official college transcript verifying completion of a baccalaureate degree along with official transcripts of any graduate-level study you wish to be considered for transfer toward the MBA requirements. Upon review of the transcripts and application, if qualified, you will receive an admission letter and acceptance form.

To enroll in the MBA program you must submit the acceptance form with your Graduate Student Services fee. You may do so online or through the mail.

Note: Where an Excelsior College® Examination or course will satisfy a requirement, it is shown in [brackets]. Excelsior College Examinations have an “x” after the department, e.g., [BUSx310 Ethics: Theory & Practice].

Acceptance of Transfer Credit

Graduate-level coursework that has been completed within 10 years of the date of enrollment may be used to satisfy the requirements of the MBA program if approved by Excelsior College faculty. Students may transfer up to 24 credits. Excelsior College will require a minimum grade of B- for any approved graduate course accepted for transfer credit. Excelsior College does not use pluses or minuses, so such grades will be converted to the full letter grade.

Your Personalized MyExcelsior Account:

www.excelsior.edu/MyExcelsior

MBA Advising Team:

toll free 888-647-2388, ext. 1331

Apply for Admission:

www.excelsior.edu/apply

College Publications, Applications, and Forms:

www.excelsior.edu/publications

Student Policy Handbook:

www.excelsior.edu/StudentPolicyHandbook

Fee Schedules, Financial Aid, and Scholarships:

www.excelsior.edu/fees

www.excelsior.edu/FinancialAid

www.excelsior.edu/scholarships

Education Credential Evaluators Inc. (ECE)

www.ece.org/excelsior

World Education Services (WES)

www.wes.org

To accept a course that is transferring in with a P grade, the college/department/faculty member issuing the P grade must verify that it is equivalent to a B- or better. Waivers for foundation courses will apply toward the 24 credits allowed in transfer.

Maximum Time to Complete the MBA Program

Students pursuing the MBA have a maximum of 10 years to complete the program from the date of enrollment.

Grade Point Average

Excelsior College requires an overall 3.0 cumulative GPA for completion of the MBA. No more than two Excelsior College courses with C grades can be applied toward the degree; these C grades must be offset by A grades in other Excelsior College courses. Refer to the *Student Policy Handbook* for complete information.

Program Content and Requirements

Enrolled MBA students work with Excelsior College academic advisors to make degree plans that meet student needs and conform to the academic policies and course requirements of the program. The program is designed to be flexible and ensure student success by providing traditional education, distance education, and American Council on Education (ACE)-approved course alternatives. Excelsior College advisors help students determine appropriate options for fulfilling course requirements that meet their academic and career objectives, preferred learning styles, and current lifestyles. We believe this diversity of educational alternatives makes our program unique and helps to ensure that additional graduate business education alternatives are provided to populations traditionally underserved by higher education.

The Excelsior College MBA offers diverse options for degree completion through online courses offered by Excelsior College and courses offered

by Excelsior Preferred Providers. For more information on these offerings as well as access to our course search feature for enrolled students, visit our website.

Waiver of Foundation Requirements/ Foundation Challenge Examinations

MBA foundation requirements provide the academic background required for the core and elective courses. The faculty has identified five foundation requirements: Business Ethics and Social Responsibility; Finance; Marketing; Organizational Behavior; and Quantitative Analysis.

Students may waive one or more of the foundation requirements on the basis of prior upper-level undergraduate study in the relevant area(s). The waiver determination is made during the admission process at the time a student's undergraduate and prior graduate transcripts are reviewed. Credit is not awarded for courses used to waive foundation requirements; instead, students who are granted foundation waivers ultimately complete fewer credits toward the degree than students who do not qualify for waiver. Students may not complete undergraduate courses to waive foundation requirements once they have enrolled in the MBA program.

Students who possess the requisite knowledge but have not completed prior graduate or upper-level undergraduate work in one or more of the foundation areas may elect to attempt to waive foundation requirements by successfully completing one or more foundation challenge examinations. These exams may be attempted one time each upon enrollment in the MBA program. The foundation challenge exams are delivered online, and are scored on a pass/fail basis. These exams carry no credit; rather, they result in a waiver of foundation requirements.

MBA Program Content and Degree Requirements

33–48 credits

Successful fulfillment of these requirements ensures a quality education. Refer to the graduate-level course descriptions beginning on page 72 for course content information.

MBA Foundation Requirements

0–15 credits, waivable

Business Ethics and Social Responsibility
(3 credits) [BUS 523 Business Ethics for Managers]

Finance (3 credits) [BUS 505 Finance]

Marketing (3 credits) [BUS 506 Marketing]

Organizational Behavior (3 credits)
[BUS 553 Organizational Behavior]

Quantitative Analysis (3 credits)
[BUS 503 Quantitative Analysis]

MBA Core Courses

24 credits required

Accounting for Managers (3 credits)
[BUS 500 Accounting for Managers]

Business Communications (3 credits)
[BUS 501 Business Communication]

Global Business Environment (3 credits)
[BUS 502 Global Business Environment]

Human Resource Management (3 credits)
[BUS 504 Human Resource Management]

Information Technology (**3 credits**)
[BUS 570 Information Technology]

OR
Leadership (**3 credits**)
[BUS 552 Leadership]

Change Management (**3 credits**)
[BUS 554 Change Management]

Operations Management (**3 credits**)
[BUS 520 Operational Management]

Strategy and Policy (capstone) (**3 credits**)
[BUS 511 Business Strategy and Policy (capstone)—the capstone course is required and must be taken through Excelsior College and cannot be transferred in.]

MBA Electives *or* Concentration

minimum 9 credits required

Students round out the MBA either by completing electives or by selecting a concentration.

Electives (**9 credits**)

Note: Courses from other Excelsior College master's programs may apply here. Contact your advisor for more information.

Master of Business Administration Concentrations

9 credits each

Cybersecurity Management Concentration

The Cybersecurity Management concentration is designed to enable students to earn a master's degree related to the cybersecurity field. The degree program will meet the needs of students who have

completed bachelor of science (BS) degrees and who want to enhance their knowledge and earn a master's degree within their career field.

Concentration Outcomes

Upon completion of an Excelsior College Master of Business Administration with a Cybersecurity Management Concentration, the graduate will be able to:

1. Apply cybersecurity principles and regulatory standards to minimize liabilities and risks associated with electronic information.
2. Integrate IT risk management and threat mitigation techniques to business decision making and IT governance.

Required Subjects

Ethics, Legal, and Compliance Issues in Cybersecurity
[CYS 541 Ethics, Legal, and Compliance Issues in Cybersecurity]

IT Risk Analysis and Management [CYS 575 IT Risk Analysis and Management]

Information Assurance
[CYS 560 Information Assurance]

Health Care Management Concentration

This concentration meets the needs of experienced managers who have completed a baccalaureate degree in a health care/health services program and strive for additional academic rigor to gain a health care masters' degree.

Concentration Outcomes

Upon completion of an Excelsior College Master of Business Administration with a Health Care Management Concentration, the graduate will be able to:

1. Manage a diverse work force providing health care for an increasingly heterogeneous population.
2. Analyze and interpret health care funding and delivery trends to provide recommendations for organizational action.

Human Performance Technology Concentration

The Human Performance Technology concentration uses a variety of interventions that are drawn from many disciplines, including human resource management, organizational development, behavioral psychology and instructional systems design. It stresses a rigorous analysis of present and desired levels of performance, identifies the causes for performance gaps, offers a wide range of interventions with which to improve performance, guides the change management process, and evaluates the results.

Concentration Outcomes

Upon completion of an Excelsior College Master of Business Administration with a Human Performance Technology Concentration, the graduate will be able to:

1. Analyze employee productivity and identify barriers to improved performance.
2. Design interventions to increase organizational efficiency.

Required Subjects

There are no required subjects in this concentration. Students may complete **[MLS 685 Strategic Problem Solving]** at Excelsior College, and transfer approved courses from other institutions. In addition, Excelsior College has reviewed and approved several educational programs offered by the International Society for Performance Improvement (ISPI) for credit toward this concentration. Each student wishing to earn academic credit for an approved ISPI educational program must submit a work sample to demonstrate an understanding and mastery of the subject matter and practical application of knowledge. A listing of the qualifying ISPI educational programs follows.

HPT Institutes

Principles and Practices of Performance Improvement
(3 credits, GR)

Making the Transition to Performance Improvement
(3 credits, GR)

Professional Series Workshops

Introduction to Serious Performance Consulting
(2 credits, GR)

Results Through Effective Implementation
(2 credits, GR)

Workshops

Evaluation of Training: Making Sense of the Morass and Building Sensible, Practical, Useful Approaches
(2 credits, GR)

Business-Driven Strategic Planning for Learning and Development **(2 credits, GR)**

Connecting Human Performance Improvement Interventions to Business Goals **(1 credit, GR)**

Measuring Human Capital **(2 credits, GR)**

Needs Assessment—Approaches and How to Get One Done, One-day version **(1 credit, GR)**

Needs Assessment—Approaches and How to Get One Done, Three-day version **(3 credits, GR)**

In addition to the approved training available through ISPI, there are a variety of approved graduate-level distance courses offered at other institutions that students can combine with the approved ISPI training to complete the Human Performance Technology requirements.

For more information, including a schedule of upcoming institutes and workshops, visit the ISPI website (www.ispi.org) or contact the MBA advising team.

Human Resource Management Concentration

The Human Resource Management concentration will provide students with the knowledge and skills required of human resource managers who deal with human capital issues, challenges, and opportunities on a daily basis. The students are expected to effectively apply contemporary theories and applications to successfully perform several key functions in human resource management, including staffing, employee development, labor relations, conflict resolutions, compensation, and benefits.

Concentration Outcomes

Upon completion of an Excelsior College Master of Business Administration with a Human Resource Management Concentration, the graduate will be able to:

1. Analyze the legal requirements applicable to human resource decisions.
2. Apply human resource management principles to support organizational objectives.

Required Subjects

BUS 512 Compensation and Benefits
BUS 515 Labor Relations and Conflict Resolution
BUS 517 Employee Staffing and Development

Information Security Concentration

The Information Security concentration provides students with the knowledge and skills necessary for a managerial position in the information security field. Courses that may be used to satisfy the concentration requirements include management of information security, management of innovation technology, network security, introduction to information security, e-business security, security management practices, security policies, standards and procedures, principles in business and security risk analysis, principles in risk and vulnerability assessments, and other approved topics.

Concentration Outcomes

Upon completion of an Excelsior College Master of Business Administration with an Information Security Concentration, the graduate will be able to:

1. Apply computer security principles and standards to develop a plan for network security in System Design.
2. Develop risk management process for various types of organizations.

Sample course titles include Network Security, Introduction to Information Security, E-business Security, Security Management Practices, Security Policies, Standards and Procedures, Principles in Business and Security Risk Analysis, Principles in Risk and Vulnerability Assessments, and other approved topics.

Required Subjects

Management of Information Security
[BUS 580 Management of Information Security]

Management of Innovative Technology
[BUS 540 Management of Innovative Technology]

Special Topics in Network Security
[BUS 590 Special Topics in Network Security Management]

Leadership Concentration

The Leadership concentration is designed to recognize the unique competencies that today's leaders have gained, while overcoming the complexities within their organizations. These innovative characteristics should be recognized by earning a master's degree associated with the leadership aspects within their careers. This program is tailored toward managers desiring to become successful leaders within an organization that demands creativity and innovation to gain success. Each of these individuals is being challenged every day to design creative solutions and develop complex courses of action with direct impacts to the organization's employees and mission. The Leadership concentration is designed to prepare each manager for the multifaceted com-

plexities they will face today and in the future as a leader. A graduate of this program will be able to successfully serve at a senior level position within one's respective organization and can be routinely called upon as an expert in one's field. This concentration meets the needs of experienced managers who have completed a baccalaureate degree and strive for additional academic rigor to gain a leadership master's degree. It will be especially suited for Excelsior College baccalaureate degree graduates who wish to continue graduate studies with the School of Business & Technology.

Concentration Outcomes

Upon completion of an Excelsior College Master of Business Administration with a Leadership Concentration, the graduate will be able to:

1. Discuss key issues and challenges associated with managing organizational changes.
2. Apply leadership strategies to manage conflicts in the workplace.

Required Subjects

Conflict Management (3 credits)

[BUS 560 Conflict Management, MLS 694 Theories of Conflict and Conflict Resolution]

Leadership (3 credits)

[BUS 552 Leadership]

OR

Change Management (3 credits)

[BUS 554 Change Management]

Contingency Planning (3 credits)

[BUS 550 Contingency Planning]

Social Media Management Concentration

The Social Media Management concentration will provide students with the knowledge and skills to effectively explore strategies in building community, maintaining a brand, and creating engaging Web content. Students will also demonstrate understanding of Social Media Management principles

and tactics and apply various mediums to changing business communications, marketing strategies, and customer service.

Concentration Outcomes

Upon completion of an Excelsior College Master of Business Administration with a Social Media Concentration, the graduate will be able to:

1. Discuss the key principles, strategies, and applications of social networking and social media marketing.
2. Achieve underlying business objectives through the creation, evaluation, and adaption of strategic social campaigns.

Required Subjects

BUS 525 Social Media Management

Principles, Strategy, Marketing, Applications, Business Success, and Community Management

[BUS 545 Social Media: Marketing, Applications, and Business Success]

Marketing Strategies and Campaigns

BUS 565 Social Media: Metrics

Technology Management Concentration

The Technology Management concentration provides students with the knowledge and skills necessary for a managerial position in the technology field. Courses that may be used to satisfy the Technology Management concentration include Management of Innovative Technology, Project Management Principles and Applications, and Quality and Productivity Methods in the Management of Technology.

Concentration Outcomes

Upon completion of an Excelsior College Master of Business Administration with a Technology Management Concentration, the graduate will be able to:

1. Integrate and manage technology effectively in organizations to improve products, services, and productivity in organizations.
2. Apply strategic management principles to the development and implementation of innovative technologies in organizations.

Required Subjects

Students may complete Excelsior College courses or transfer approved courses from other institutions to satisfy these concentration requirements.

Management of Innovative Technology (3 credits)
[BUS 540 Management of Innovative Technology]

Project Management Principles and Application (3 credits) [BUS 530 Project Management Principles and Application]

Quality and Productivity Methods in the Management of Technology (3 credits)
[BUS 535 Quality & Productivity Methods in the Management of Technology]

Your Personalized MyExcelsior Account:

www.excelsior.edu/MyExcelsior

MBA Advising Team:

toll free 888-647-2388, ext. 1331

Excelsior College Course Information and Registration:

www.excelsior.edu/courses

Course/Exam Approval:

www.excelsior.edu/MessageCenter

Excelsior College Learning Resources:

www.excelsior.edu/practice

www.excelsior.edu/library

www.excelsior.edu/bookstore

www.excelsior.edu/MyExcelsior, click on the Resources tab

Excelsior College Community Resources:

www.excelsior.edu/MyExcelsior, click on Communities tab

Fee Schedules, Financial Aid, and Scholarships:

www.excelsior.edu/fees

www.excelsior.edu/FinancialAid

www.excelsior.edu/scholarships

Excelsior College Online Writing Lab (OWL):

www.excelsior.edu/OWL

Free Writing Resources:

Online software skills training through Atomic Learning

(EC course and exam registrants only),

Online tutoring services through SMARTHINKING™

(EC course and exam registrants only)

www.excelsior.edu/MyExcelsior, click on the Resources tab

CHART 9

Master of Business Administration

Total Degree Credits Required: 33–48

MBA

Foundation Requirements

(0–15 credits, waivable)

Business Ethics and Social Responsibility
Finance
Marketing
Organizational Behavior
Quantitative Analysis

Foundation Requirements

Credit Hours

0–15

MBA Core Courses

(24 credits, required)

Accounting for Managers
Business Communications
Global Business Environment
Human Resource Management
Information Technology
Leadership **OR** Change Management
Operations Management
Strategy and Policy Capstone *

Credit Hours

MBA Core Courses

24

Electives/ Concentration

(9 credits required)

Credit Hours

Electives/
Concentration

9

You may opt to select 9 credits from MBA electives or choose one of the following concentrations.

Cybersecurity Management Concentration

Ethics, Legal, and Compliance Issues in Cybersecurity
IT Risk Analysis and Management
Information Assurance

Health Care Management Concentration

Health Care Policy, Politics and Power
Communication Strategy for the Health Care Leader
Strategic Management of Health Care Organizations

Human Performance Technology Concentration

You may complete faculty-approved courses from other institutions and from the International Society for Performance Improvement (ISPI)

Human Resource Management Concentration

Compensation and Benefits
Labor Relations and Conflict Resolution
Employee Staffing and Development

Information Security Concentration

Management of Information Security
Management of Innovation Technology
Special Topics in Network Security

Leadership Concentration

Conflict Management
Change Management or Leadership
Contingency Planning

Social Media Management Concentration

Social Media Management
Principles, Strategy, and Community Management
Social Media:
Marketing Strategies and Campaigns
Social Media: Metrics

Technology Management Concentration

Management of Innovative Technology
Project Management Principles and Application
Quality and Productivity Methods in the Management of Technology

* BUS 511 Strategy and Policy is the required capstone course and must be taken through Excelsior College. It cannot be transferred in.

School of Business & Technology Courses 2013

The listing on the following pages provides numbers, titles, credits, and brief descriptions of courses available through the School of Business & Technology during the 2013–2014 academic year. Visit the School of Business & Technology course section of the Excelsior College website at www.excelsior.edu/CourseSearch to view a more detailed description of each course and to determine when each course will be offered.

Remember to contact your academic advisor for approval prior to registering for any courses to ensure that they will apply toward your degree as expected.

Not every course is offered every term. Please check our Web site for course availability.

Undergraduate Level

ACC 211

Financial Accounting

3 credits

This course develops skills of basic financial accounting principles in the pursuit of organizational goals and strategies. Topics covered include financial statement analysis, accounting information systems, operating decisions, and financing.

ACC 212

Managerial Accounting

3 credits

This course focuses on the processes of identifying, measuring, analyzing, interpreting, and communicating financial information for managerial decision making. It covers such topics as the fundamentals of basic unit costs, cost flow management systems and processes, budgeting and performance measurement, and cost analysis and pricing decisions.

ACC 314

Intermediate Accounting I

3 credits

This course expands on topics covered in previous accounting courses by providing 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 (GAAP), 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

This course is the second course in a sequence of Intermediate Accounting in preparation of a career in accounting. This course expands on topics previously covered in Intermediate Accounting I. Topics presented in this course focus on accounting for company's financing, investing activities, and accounting for the acquisition, maintenance, and disposal of company's assets. The discussion will continue students' development of understanding

GAAP, ethical and moral issues in accounting, and related disclosures required by GAAP. Students will have the opportunity to deepen their understanding of financial statement preparation, analyzing financial statements, and applying analytical tools in making business and financial decisions.

ACC 360

Cost Accounting

3 credits

This course develops an understanding of the attributes of cost behavior, cost accumulation systems and techniques, management planning and control systems, relevant cost information for short-term decision-making, and accounting data in long-term capital budgeting decisions. It includes detailed coverage of cost-volume-project analysis; job order and process costing including spoilage, budgeting, standard costing and variance analysis; absorption and variable costing; relevant costs; and capital budgeting.

ACC 400

Auditing

3 credits

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 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.

Remember to contact your academic advisor for approval prior to registering for any courses to ensure that they will apply toward your degree as expected. Not every course is offered every term. Please check our Web site for course availability.

ACC*415 / BUS*415 **Advanced Financial Management** **3 credits**

This course will introduce advanced concepts and methods of financial management. Students will examine risk and return management and will utilize processes in capital and cash management for effective business decision-making.

BUS 221 **Business Communication** **and Information Systems** **3 credits**

This course provides general principles/concepts of information systems for improving business professionals' effectiveness with managing organizations. Students will explore basic computer office applications for conducting daily communication tasks in the business environment. The importance of database management, information and network security, social networks, E-Commerce, and legal, ethical, and privacy issues about information management will be studied in the course. Additionally, students will gain an understanding of enterprise resource planning, decision support and expert systems, and information technology (applications/software) used throughout the global business environment.

BUS 225 Consumer Behavior **3 credits**

In this course, students will explore the principles of consumer behavior by reviewing topics about consumer motivation, perception, learning, attitude, and information processing. Additionally, students will discover the impacts of life style, demographics, social class/culture, groups, leaders, family, and diverse/global environments on consumer behavior. Students will examine consumer behavior from a marketing strategy perspective to successfully develop products and services that will fulfill the wants and needs of individuals in the marketplace. Students will look at the factors influencing acquisition and consumption of products and services.

BUS 230 **Business Law** **3 credits**

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 environ-

ment 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 233 **Business Statistics** **3 credits**

This course develops skills in the essential tools used for statistical analysis and decision making in business. It covers descriptive and inferential statistics and emphasizes research techniques such as sampling and experimental design concepts for single and multiple sample groups.

BUS 260 **Introduction to Tourism** **3 credits**

This course provides an overview of the history, likely direction, and organizational structure of the tourism industry and its role in the local, national, and international economy. It examines the nature and scope of the tourism industry and some of the basic management issues involved. It explores the physical and cultural factors influencing tourism as well as aspects of international tourism, including the location of major attractions as related to underlying geographic, social, and economic factors.

BUS 290 (capstone) **Integrated Technology Assessment** **3 credits**

This is the required capstone course for the Associate in Applied Science in Administration/Management Studies 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 Applied Science in Administration/Management Studies outcomes. The learning statements must be supported by documented evidence that demonstrates the outcomes have been met.

BUS 295 (capstone) **Integrated Technology Assessment** **3 credits**

This is the required capstone course for the Associate in Science in Business 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 Business out-

comes. The learning statements must be supported by documented evidence that demonstrates the outcomes have been met.

BUS 301 **Principles of Insurance** **3 credits**

This course introduces students to principles, concepts, and applications for understanding health, life/casualty, and property insurances. 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 302 **Principles of Risk Management** **3 credits**

This course introduces corporate Risk Management (CRM) as a systemic approach to minimizing an organization's exposure to risk. Students will explore risk management policies, procedures, and practices that work in unison to identify, analyze, evaluate, and monitor risk. Students will identify situations that may significantly or materially interfere with the achievement of an organization's desired goals or events/activities that may cause a significant opportunity to be missed. Some risk management topics for this course include purchasing insurance, installing security systems, maintaining cash reserves, and diversification.

BUS 310 **Entrepreneurial Marketing** **3 credits**

This course focuses on the role of marketing within startup or growing small businesses. Analysis of entrepreneurial marketing strategies, techniques and management. It examines marketing activities required within the first one to two years of a company's life and emphasizes steps to be taken in the new product/service development process. Students will learn how to be customer-oriented, to design and introduce products/services, to use advertising and public relations, to manage distribution channels, and develop the marketing section of a business plan.

BUS 311 **Organizational Behavior** **3 credits**

This course offers 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 312 **Managing Human Resources** **3 credits**

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 315 **Labor Relations** **3 credits**

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 317 **International Finance** **3 credits**

This course will provide students with an understanding of financial management issues in a global setting. It will help students develop analytical tools that incorporate key international considerations into fundamental financial decisions. Some areas of concentration include: an overview of multinational corporations, the behavior of exchange rates

in business decision making and the risks associated with exchange rates, the international flow of funds relative to its impact on international trade and the balance of payments, how governments influence exchange rates, the impact of long-term debt financing, and an understanding of international cash management.

BUS 323

Business Ethics

3 credits

This course examines corporate governance, business government relations, the impact of economic and social change, organizational ethics, and the political role of business. Considers the mea-

sures businesses may use to anticipate and provide appropriate responses to changes in public and government expectations while defending legitimate business interests.

BUS 325

Women in Business

3 credits

This course 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 330

Entrepreneurial Business Law

3 credits

This course focuses on the role of key legal issues affecting startup or growing small businesses. It presents the analysis of entrepreneurial legal issues, techniques, and management with emphasis on steps to be taken to develop a legal strategy that will support the venture's growth over its expected life cycle.

BUS 335

Hospitality Service Systems Technologies

3 credits

This course explores consumer trends in the service industry and the technologies that are changing the way hospitality services are marketed, consumed, customized, and packaged. Topics include Point of Sale (POS), communications, customer service, sales, security, entertainment, special requests, guest experience and enhancement, and information management.

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BUS 341 **Management Concepts** **and Applications**

3 credits

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

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 345 **Hotel/Restaurant Franchising**

3 credits

This course covers domestic and international franchising initiatives. Topics include necessary management skills, franchise operations management, legal concerns, market-responsive sales, marketing, globalization strategies, raising structuring agreements, intellectual properties, regulatory concerns, quality control and compliance measures, joint ventures, mergers and acquisitions, franchising agreements, and licensing programs.

BUS 350 **Principles of Finance**

3 credits

This course presents an introduction to the discipline of finance. It 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, Economic Value Added (EVA) and Market Value Added (MVA) concepts, and current and future trends in corporate finance.

BUS 351 **Marketing Concepts and Application**

3 credits

This course is an introduction to the language and issues of marketing with an emphasis on learning to develop responsive marketing strategies that meet customer needs. The course focuses on basic marketing concepts, the role of marketing in the organization, and the role of marketing in society. Topics include market segmentation, product development, promotion, distribution, and pricing. Other topics, which will be incorporated into the course, are external environment (which will focus on integrative topics with marketing, such as economics, politics, government, and nature), marketing research, international/global marketing with relevance to cultural diversity, ethics, the impact of technology on marketing, and careers in marketing.

BUS 360 **Product Planning, Process,** **and Quality Control**

3 credits

In this course students will explore the connections between various different business activities and processes that 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 365 **Legal Environment of** **Hospitality Management**

3 credits

This course provides an overview of the legal implications of acts by hospitality professionals, employees, guests, and visitors. It focuses on the analysis of rights,

responsibilities, and risk management involved with hospitality industry establishments. It includes discussion of historical and current liability, the nature of governmental regulations, and predictability and provability in the current legal environment.

BUS 380 **Managing Diversity in the Workplace 3 credits**

This course examines how effective diversity management can improve organizational learning, knowledge creation, and profitability in culturally complex environments and organizations. It places emphasis on such demographic variables as ethnic-

ity, culture, age, religion, language, socio-economic and family status, education, sexual orientation, and physical and mental ability.

BUS 425 **Operations Management 3 credits**

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 430 **Quantitative Methods 3 credits**

The course will explore 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 435 **International Business 3 credits**

This course presents an examination and analysis of global business in its historical, theoretical, environmental, and functional dimensions. Focus is on understanding the growing economic interdependence of nations and its impact on managerial and corporate policy decisions that transcend national boundaries. Topics include the nature and scope of international business; the institutional, socio-cultural, political, legal, ethical and economic environments; trade, foreign investment and development; transnational management (including global operations), strategic planning, human resources, marketing, and finance; and international diplomacy and conflict resolution.

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BUS 437**Securities Analysis****3 credits**

This course focuses on the fundamental analysis, the concept of investment 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**

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 445**Sustainable Hospitality Management****3 credits**

This course presents concepts and techniques for planning tourism facilities (including hotels/restaurants) at the attraction and destination levels in a way to ensure their sustainability. The course places emphasis on the exploration of economic, social, and geographic factors in selected international locations. Topics include community-driven planning, tourism resources inventories, urban re-imaging strategies, and transportation and environmental planning.

BUS 450**Marketing Management****3 credits**

This course will focus on developing and managing marketing plans for businesses and corporations. Students will analyze market trends, brand equity, product differentiation, scanning of the environment, and examine customer behavior.

BUS 452**Business Leadership****3 credits**

This course focuses on research findings about leadership, leadership practice, and leadership skill development. It explores and evaluates leadership practices, behaviors, and personal attributes of leaders and includes case studies of leaders and organizations. The course balances theory with real-world applications for a practical, skill-building approach to leadership.

BUS 490 (capstone)**Integrated Business and Management Assessment****3 credits**

This is the required capstone course for the Bachelor of Professional Studies in Business and Management 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 Bachelor of Professional Studies in Business and Management outcomes. The learning statements must be supported by documented evidence that demonstrate the outcomes have been met.

BUS 495 (capstone)**Business Strategy****3 credits**

This is the required capstone course for the Bachelor of Science in Business program. It requires the student to complete a capstone case study course in managerial decision making intended to integrate previous training in the functional areas of business (accounting, finance, marketing, operations, and personnel). It focuses on problems from the point of view of the chief executive officer or general manager and is mainly concerned with the design and implementation of corporate strategy. All BUS 495 students are required to complete an online examination designed to assess the basic knowledge and understanding achieved by senior undergraduates in business. This examination will be delivered directly in the course, consist of 100 multiple-choice questions, and last three hours.

CYS 245**Introduction to Cybersecurity****1 credit**

The course provides students with an introduction to the basic and fundamental concepts of cyber security 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 also focus on the basic principles of encryption, digital signatures, cryptographic protocols and access control models. Students will analyze the human, social and economic dimensions of computer security consisting of usability, digital rights management, social engineering and ethical and legal issues.

Remember to contact your academic advisor for approval prior to registering for any courses to ensure that they will apply toward your degree as expected. Not every course is offered every term. Please check our Web site for course availability.

CYS 300**Computer System
Security Fundamentals****3 credits**

This course provides an introduction to all aspects of computer security. It describes threats and types of attacks against computers to enable students to understand and analyze security requirements and define security policies. In the course we will discuss major models in computer security such as Bell-La Padula, Biba, and Clark-Wilson, and compare their properties and roles in implementation. Security mechanisms and enforcement issues will be introduced and security features of major application systems will be discussed as practical examples. Other topics include cryptography, planning for security, risk management, security standards, law, and ethics

CYS 345**Cybersecurity Defense in Depth****3 credits**

This course examines the world of cybersecurity risks and defenses which pose 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. 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 business and government perspectives using real-world scenarios to demonstrate actual cybersecurity threats and the strategies used to defend against those threats.

CYS 426**Cyber Attacks and Defenses****3 credits**

This course investigates security issues, vulnerabilities, and mechanisms to identify, respond to, and prevent cyber attacks and to build active defense systems. The course will follow the formal ethical hacking methodology, including reconnaissance, scanning and enumeration, gaining access, escalation of privilege, maintain access, and reporting. Ethical Hackers are computer and network experts who attack security systems on behalf of its owners, seeking vulnerabilities that a malicious hacker could exploit.

CYS 455**Business Continuity****3 credits**

This course is designed to provide a broad coverage of topics related to security in the business environment. Coverage of methods for physical security in addition to the security measures involving hardware, software, secure and unsecure protocols, authentication, and processes used to prevent access. It places emphasis on the development of a business continuity plan and disaster recovery plan that will provide essential details to mitigate the effect of a breach in security or in the event of a disaster.

CYS 456
Securing Mobile and
Cloud Computing Environments **3 credits**

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 ensuring their ability to communicate in a secure manner.

CYS 460
Cybersecurity Investigations
and Case Studies **3 credits**

This course is a capstone course for the Undergraduate Certificate in Cybersecurity. It provides a comprehensive analysis of the methods, tools, and best practices for handling, responding, and investigating cybersecurity incidents and product vulnerabilities. It covers building a security Incidence Response Team (IRT) and a Product Security Team for security vulnerability handling. Students review legal issues from a variety of national perspectives and consider practical aspects of coordination with other organizations.

CYS 475
Large-Scale Cybercrime and Terrorism **3 credits**

This course examines cyber crime and terrorism in a global context and focuses on large-scale incidents that effect international security. The foundation of the course emphasizes the evolution of cyber crime and terrorism within the context of globalization and the increasing complexity of cyber crime and international, nation-less decentralized terror networks. The course discusses the relationship of cyber crime and uses of information technology that cultivated and sustained current international terror networks. The course also discusses emerging trends and potential threats such as electromagnetic pulse attacks (EMPs) and methods (and limitations) to confront large-scale cyber crime and terrorism such as advanced data mining techniques by the intelligence community and use of fusion centers.

ECO 260
Introduction to Microeconomics **3 credits**

This course examines contemporary economic systems based on tools of microeconomics. It covers theoretical analysis of prices and profits as guides to resource allocation, industrial structure, meaning of economic welfare, proper function of government in the economy, and distribution of income.

ECO 262
Introduction to Macroeconomics **3 credits**

This course examines determinants of the Gross National Product, incomes and employment, sources' demand for goods and services, problems of unemployment and inflation, use of taxes, and government spending and control over supply of money to fight unemployment and inflation. It covers causes of economic growth and arguments for and against growth.

ELEC 152
Circuit Theory I **4 credits**

This course is an introduction to the basic principles of DC electricity. Topics covered include: current, voltage, resistance (both linear and non-linear), Ohms 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**

This course presents the principles and applications of alternating current circuits, the sine wave, reactance, complex algebra and phasors, impedance, power in AC circuits, series and parallel impedances, impedance networks, and resonance. This course contains a lab component.

ELEC 160 **Electronics I** **4 credits**

This course is an introduction to the study of semiconductor devices such as PN-junction diodes, Bipolar Junction Transistors (BJT), Field-Effect Transistors (FETs,) and Metal-Oxide Semiconductor Field-Effect Transistors (MOSFET), which enable students to perform analysis of DC transistors biasing; small-signal single and multi-stage amplifiers using BJTs, FETs, and MOSFETs; and frequency response of transistor single and multi-stage amplifiers. This course contains a lab component.

ELEC 161 **Electronics II** **4 credits**

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, D/A and A/D 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**

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**

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**

This course introduces students to programmable logic controllers (PLCs) and their applications. Topics include PLC programming, troubleshooting, networking, and industrial applications. This course contains a lab component.

ELEC 305 **Introduction to Nanotechnology** **3 credits**

This course is an introduction to the underlying principles of nanotechnology, nanoscience, and nanoengineering. It introduces scientific principles and laws relevant to the nanoscale and discusses applications in engineering, physics, chemistry, and biology.

ELEC 306 **Advanced Digital Design** **3 credits**

This course presents the systematic design methods for sequential state machines. It covers specification and modeling of sequential systems and design implementation using programmable logic devices. This course contains a lab component.

ELEC 307 **Microcontrollers** **3 credits**

This course presents the design of microprocessor-based systems and a detailed study of microprocessor/microcontroller applications in data acquisition and process control systems. This course contains a lab component.

ELEC 310 **Basic Nanofabrication Process** **3 credits**

This course is an introduction to the basic principles and methods of nanofabrication and the associated metrology/characterization methods used in industrial and research applications of nanotechnology. Topics covered include the properties of semiconductor materials, silicon wafer preparation, wafer fabrication and contamination control, productivity and process yields, oxidation, and the 10-step patterning process.

ELEC 321 **Control Systems** **3 credits**

This course emphasizes the practical applications of control systems. It covers the terminology, concepts, principles, procedures, and computations used by engineers and technicians to analyze, select, specify, design, and maintain all parts of a control system. It emphasizes the application of established methodology with the aid of examples, calculators, and computer programs. Derivatives and integrals are introduced and explained as they are used. The course places emphasis is on developing an intuitive grasp of how derivatives and integrals relate to physical systems.

ELEC 331 **Digital and Analog Communications** **3 credits**

This course introduces the principles and applications of communication circuits, Radio Frequency (RF) circuit theory (transmitters, receivers), modulation (AM, FM), transmission lines and media, wave propagation, analog versus digital communication techniques, protocols, and communication networks. This course contains a lab component.

ELEC 345 **Electrical Machines** **3 credits**

This course introduces the concept of energy storage and conversion, force and electromotive force (emf) production, electromagnetic induction, transformers, and generators. It covers performance characteristics of DC, induction, and synchronous machines. Stepper motor and brushless DC machines.

ELEC 350 **Power Electronics** **3 credits**

This course covers principles of operation of power semiconductor devices such as Thyristors and Insulated Gate Bipolar Transistors (IGBTs). It also covers fundamentals of power converter circuits including DC/DC converters, phase controlled AC/DC rectifiers, and DC/AC inverters.

ELEC 360 **Generation and Transmission of Electric Power** **3 credits**

This course presents the concept of electric power generation and transmission systems; power flow; economic scheduling of electric power generation; transmission operations; and power system faults. This course contains a lab component.

ELEC 370 **Instrumentation and Data Acquisition** **3 credits**

This course provides an introduction to virtual instrumentation and data acquisition. Topics covered include virtual instruments, sub virtual instruments, structures, and data acquisition. This course contains a lab component.

Remember to contact your academic advisor for approval prior to registering for any courses to ensure that they will apply toward your degree as expected. Not every course is offered every term. Please check our Web site for course availability.

ELEC 410 **Nanotechnology Process Equipment** **3 credits**

This course presents the equipment used in nanofabrication processes at the manufacturing level as well as research and development stages. It covers nanotechnology, 300-mm wafer processing, "green" processes and devices, new fabrication advances and non-vacuum processing tools. Examples of equipment used in applications for micro/nanoelectronics and photovoltaics will be presented, including equipment for doping, layer deposition, device evaluation, and packaging. This course contains a lab component.

ELEC 415**Introduction to Nanofabrication
Manufacturing Technology****3 credits**

This course is an introduction to the fundamentals and applications of nanofabrication manufacturing technology. Topics include etching and micromachining, nanogrinding, laser-based nanofabrication, pulse water drop micromachining, diamond nanogrinding, and commercialization issues of nanotechnology. This course contains a lab component.

ELEC 420**Micro-Electro Mechanical Systems****3 credits**

This course focuses on Micro Electromechanical Systems (MEMS) and Nano Electromechanical Systems (NEMS). Topics include MEMS and NEMS architecture, synthesis, modeling, and control.

Micro-sensors, micro-actuators, micro-engines, and optical MEMS applications are explored. Electronic applications of MEMS, such as in data storage and bio-medical sensors, are also covered. This course contains a lab component

ELEC 495 (capstone)**Integrated Technology Assessment****3 credits**

This is the required capstone course for the Bachelor of Science in Electrical Engineering 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 Bachelor of Science in Electrical Engineering Technology outcomes. The learning statements must be supported by documented evidence that demonstrate that the outcomes have been met. All ELEC 495 students are required to complete an online examination designed to assess the basic knowledge and understanding achieved by senior undergraduates in electrical engineering technology.

IT 210**Object-Oriented Programming****3 credits**

This course covers problem solving and algorithm development using the object-oriented programming language Java. Introduction to object-oriented features, including encapsulation, inheritance, and polymorphism. It examines the development of processes of design, coding, debugging, and documentation, and focuses on techniques of good programming style.

IT 321**Computer Systems Architecture****3 credits**

This course provides an introduction to the basic components and structure of the computer and the evolution of computer systems. It considers in detail the operation of the Central Processing Unit (CPU), memory, input/output, instruction set architecture, pipelining, operating systems, and communications. The course focuses on the coverage of modern architectures, key system features, networking, and distributed services.

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IT 325**Introduction to Multimedia****3 credits**

This course introduces the basic concepts of multimedia and an introduction to industry standard applications and emerging technologies. Using different tools, students design multimedia applications that incorporate text, video, sound, graphics, and animation.

IT 330**Internet Programming****3 credits**

This course offers a comprehensive introduction to Web development using scripting languages used in industry. Covers client-side and server-side development, including the use of Javascript for client-side programming and Hypertext Preprocessor (PHP) for server-side programming.

IT 350**Business Data Communications****3 credits**

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 360**Operating Systems****3 credits**

This course offers an introduction to the basic components and structure of a generic operating system. It considers in detail processes, process management and synchronization, threads, interrupts and interrupt handling, memory management, virtual memory management, resource allocation, and an introduction to file systems, protection, and security.

IT 370**Database Management Systems****3 credits**

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 380**Overview of Computer Security****3 credits**

This course offers an in-depth look at operating system security concepts and techniques. It examines theoretical concepts of computer security and explores security strategies, the advancement of security implementation, and timeless problem-solving strategies.

IT 390**Project Management****3 credits**

This course explores system development life cycle (SDLC) and project life cycle to enhance skills in budget and time line management. Use of project management software to design project schedules, using bar charts, Program Evaluation and Review Technique (PERT), and critical path method.

IT 402**Network Security****3 credits**

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**

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 Life-cycle (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**

This course emphasizes the technical and legal aspects of electronic evidence and the computer forensic investigative process. Topics include the discovery and recovery of electronic evidence stored on or transmitted by computers, networks, and cellular devices.

IT 408**Information Assurance Management****3 credits**

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**

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**

The course will focus on the concepts and techniques of modern systems analysis and design. It examines approaches to systems analysis and design, including traditional approaches to the system development life cycle and modeling of system requirements and design. The course also describes 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**

This course will review several advanced networking topics, including wireless and mobile networking, satellite and near field communications, RFID (Radio Frequency Identification), and the use of cryptography and encryption in data transmission and networking. This course will also discuss privacy and security issues related to the use of these networking technologies.

IT 424**Network Operating Systems****3 credits**

This course identifies the main functions of operating systems and network operating systems, and distinguishes between the two. Examines and compares the basic features of common network operating systems such as Novell NetWare, all versions of Windows, Unix, and Linux. It discusses the common examples of network utility software and Internet software, software licensing agreements, and network security and backup/recovery issues.

IT 426**Wireless Technology****3 credits**

This course provides a broad survey of wireless communications, including in-depth coverage of protocols, transmission methods, and IEEE 802.11 standards. Many hands-on exercises are included, which allow students to practice skills as they are learned.

IT 428**Telecommunications Management****3 credits**

This course 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 Systems Design and Management****3 credits**

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 sys-

tem 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 442**Internetworking with TCP/IP****3 credits**

This course focuses on the broad outlines of TCP/IP and its application to organizational networks. The course will provide the skills required to recognize, analyze, and troubleshoot a broad range of TCP/IP-related networking problems. The structure of Internet packets, IP addressing and the various layers of the TCP/IP protocol suite will be analyzed in detail. This will be accomplished by a combination of hands-on lab activities and discussions that focus on developing the skills required to plan design and maintain networks. The course will also address current trends and issues relevant to internetworking with TCP/IP.

IT 450**Enterprise Network Management****3 credits**

This course overviews a study of planning, organizing, and controlling the enterprise network management activities for the potential network and systems administrator. It places emphasis on current techniques and future trends, including how to monitor and analyze network events and how to store and retrieve performance data. Different paradigms for network management such as the Internet Simple Network Management Protocol (SNMP), Remote Monitoring (RMON), and Open System Interconnection Common Management Information protocol (OSI CMIP) will be discussed. It covers web-based management and the ITU-T Telecommunications Management Network (TMN) approaches.

IT 495 (capstone)**Integrated Technology Assessment****3 credits**

This is the required capstone course for the Bachelor of Science in Information 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 Bachelor of Science in Information Technology outcomes. The learning

statements must be supported by documented evidence that demonstrate that the outcomes have been met. All IT 495 students are required to complete an online examination designed to assess the basic knowledge and understanding achieved by senior undergraduates in information technology.

NUC 210

Health Physics and Radiation Protection

3 credits

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 & radiation interactions, biological effects of ionizing radiation, radiological approximations and calculations, radiation sources & detectors, radiation protection standards & 10 CFR 20, external & internal dosimetry, workplace & environmental monitoring, radiation protection principles, and handling radiological emergencies.

NUC 211

Radiation Measurement Lab

1 credit

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 220

Nuclear Plant Chemistry

3 credits

This course provides a fundamental grounding in the chemistry principles and practices associated with the safe operation of commercial nuclear generating facilities. While designed to meet the requirements of the Nuclear Uniform Curriculum Program, this course has broad applicability for anyone interested in entering a power plant technology degree program. This course offers the following broad topics: measurement, basic concepts of matter, atomic structure, periodic table, structure of compounds, chemical formulas/chemical equations, states of matter, solutions, acids and bases, corrosion, oxidation and reduction, and nuclear chemistry.

NUC 230

Basic Atomic Physics

2 credits

Prerequisite: TECH 150 Power Plant Mathematics

This course introduces the physics of the components of matter, including the prevailing atomic models and their role in understanding the structure of materials. Also included in the scope of the course are the wave and particle theories of light, interactions between matter and energy which lead to different atomic energy levels, and bonding mechanisms of atoms to form molecules. While designed to meet academic requirements for students enrolled in the nuclear uniform curriculum program, this course would be of interest to any student who wishes to learn more about the structure of the physical world.

NUC 240

Atomic and Nuclear Physics

4 credits

This course includes the study of the structure of the atom and of the nucleus, of atomic and nuclear energy states, wave-particle duality, electron and nucleon spin, multi-electron atoms, atomic spectra, atomic bonding, electron motion, nuclear reactions, radioactivity, fission, and fusion. It examines the theories postulated and proven that formed the branch of physics known as atomic physics in the late 19th century and early 20th century and became the foundation for the development of nuclear physics and electronics shortly thereafter. This course will enhance learning of reactor physics, radiation safety, electronics, materials science, and chemistry in future courses as well as in your professional and military career.

NUC 245

Thermodynamics

3 credits

This course presents basic thermodynamics concepts, including energy, temperature, specific heat, enthalpy, entropy, and pressure. Topics include the First and Second Laws of Thermodynamics, Rankine power cycles, use of steam tables and Mollier diagrams, and properties of gases, vapors, mixtures, and pure substances.

NUC 250**Introduction to Heat Transfer
and Fluid Mechanics****3 credits**

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**AC/DC Electrical Theory****3 credits**

This course is a basic concept course covering charge, AC and DC current, voltage, capacitance, inductance, energy, power, Kirchhoff's Laws, loop and nodal analysis, and linear voltage-current.

NUC 260**Power Plant Components****3 credits**

This course will describe the theory, construction and application of mechanical components such as (but not limited to): air compressors, heat exchangers and condensers, pumps, filtration systems, valves, and turbines. This course will also describe the theory, construction, and application of the following as used in the industry: diesel engines, air conditioning, refrigeration, heating and ventilation systems, generators, electrical equipment, valve actuators and electronics and other systems and processes that are plant specific.

NUC 270**Reactor Safety Design****3 credits**

This course will explain basic concepts related to reactor plant protection, accident analysis, and transient prevention and mitigation of core damage and accident management, and examine and analyze information regarding major industry incidents.

NUC 295 (capstone)**Integrated Technology Assessment****3 credits**

This is the required capstone course for the Associate of Science in Nuclear Technology/Nuclear Uniform Curriculum 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 of Science in Nuclear Technology/Nuclear Uniform Curriculum Program outcomes. The learning statements must be supported by documented evidence that demonstrate that the outcomes have been met.

NUC 320**Materials****3 credits**

This course offers the study of the materials used in engineering applications. Topics include atomic bonding, crystalline and noncrystalline structures, diffusion, mechanical and thermal behavior, phase diagrams, kinetics, failure analysis and prevention, structural materials, ceramics, polymers, composites, and materials used in engineering designs. Characteristic properties and methods of conducting common tests and interpreting results will also be discussed in this course.

NUC 325**Nuclear Materials****4 credits**

This course offers the study of radiation effects on metallic and ceramic materials; response of materials in a reactor environment; metallurgy of uranium, thorium, and plutonium; properties of oxides and carbides; creep, swelling, densification, stress, corrosion, and cracking.

NUC 330**Reactor Core Fundamentals****3 credits**

This course presents a study of the basics of neutron chain reaction systems. Topics include neutron cross sections, flux, reaction rates, fission processes, neutron production, neutron multiplication, 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**

This course offers an overview of the basic aspects of design, layout, and function of all major systems associated with nuclear power plant designs typically used for U.S. power production. The approach to the course is to build a power plant system by system. Covers major system components, controls, and their design features. Emphasizes the systems' interconnection and functions. Systems are grouped/classified regarding their use and characteristics, e.g. production vs. safety, primary (nuclear interface) vs. balance of plant, active vs. passive.

NUC 495 (capstone)**Integrated Technology Assessment****3 credits**

This is the required capstone course for the Bachelor of Science in Nuclear Engineering 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 Bachelor of Science in Nuclear Engineering Technology outcomes. The learning statements must be supported by documented evidence that demonstrates that the outcomes have been met. All NUC 495 students are required to complete an online examination designed to assess the basic knowledge and understanding achieved by senior undergraduates in information technology.

TECH 150**Power Plant Mathematics****3 credits**

This course provides a fundamental grounding in the mathematics necessary to satisfactorily complete the Nuclear Uniform Curriculum Program and the Associate of Science in Nuclear Technology. This course also has broad applicability for anyone interested in entering a power plant technology degree program. The course covers: basic arithmetic functions, scientific notation, dimensional analysis, basic algebraic operations, graphical analysis, basic geometric concepts, basic trigonometric operations, basic statistical analysis, and introduction to higher level mathematics.

TECH 200**Technical Writing****3 credits**

This course develops skills in technical writing and communication. The course will cover the basics of technical writing and communication through email, presentation, social media, and word processing.

TECH 201**Foundations of Technology
Problem Solving I****4 credits**

This course offers an introduction to the basic concepts of calculus and their applications in engineering technology. It discusses use of limits, derivatives, and integrals to solve problems related to different engineering technology disciplines.

TECH 202**Foundations of Technology
Problem Solving II****4 credits**

This course is a continuation of TECH 201. It focuses on the applications of calculus in engineering technology. Topics include sequences and series, polar coordinates, introduction to ordinary differential equations, eigenvalue solutions, and Laplace transform methods.

TECH 205 **Discrete Structures** **3 credits**

This course provides the mathematical foundations for information technology, including set theory, patterns of inference, elementary combinatorics, automata theory and formal languages, cryptography, and graph theory.

TECH 221 **Business Communication and Information Systems** **3 credits**

This course provides general principles/concepts of information systems for improving business professionals' effectiveness with managing organizations. Students will explore basic computer office applications for conducting daily communication tasks in the business environment. The importance of database management, information and network security, social networks, E-Commerce, and legal, ethical, and privacy issues about information management will be studied in the course. Additionally, students will gain an understanding of enterprise resource planning, decision support and expert systems, and information technology (applications/software) used throughout the global business environment.

TECH 225 **Applied Instrumentation and Control** **3 credits**

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**

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.

TECH 233 **Electrical Power Distribution** **3 credits**

This course provides an overview of the design, operation, and technical details of modern power distribution systems, including generating equipment, transmission lines, plant distribution, and protective devices. It includes calculations of fault current, system load analysis, rates, and power economics.

TECH 250 **Renewable Energy Overview I: Solar and Geothermal** **3 credits**

This course offers an overview of solar (photovoltaic) 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**

This course offers an overview of wind energy and water energy in both commercial and noncommercial 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 290 (capstone) **Integrated Technology Assessment** **3 credits**

This is the required capstone course for the Associate in Applied Science in Technical Studies 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 Applied Science in Technical Studies outcomes. The learning statements must be supported by documented evidence that demonstrate that the outcomes have been met.

TECH 295 (capstone) **Integrated Technology Assessment 3 credits**

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 the outcomes have been met.

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Excelsior College Community Resources:
www.excelsior.edu/MyExcelsior, click on Communities tab

TECH 330 **Economic Analysis for Technologists 3 credits**

This course studies the application of economics and decision theory to the evaluation of engineering alternatives in planning, developing, constructing, and managing engineering projects.

TECH 340 **Introduction to Energy Utilization 3 credits**

This course details the high rate of fossil fuel consumption by developed and developing nations, the limited amounts of fossil fuels remaining, and the environmental damage due to their use. Renewable energy sources are encouraged, and renewable energy source data is presented as well as information regarding state-of-the-art renewable energy technologies for the electric power and transportation industries. Renewable energy sources include wind, photovoltaics, fuel cells, and biomass.

TECH 490 (capstone) **Integrated Technology Assessment 3 credits**

This is the required capstone course for the Bachelor of Professional Studies in Technology Management 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 Bachelor of Science in Technology Management degree outcomes. The learning statements must be supported by documented evidence that demonstrates the outcomes have been met.

TECH 495 (capstone) **Integrated Technology Assessment 3 credits**

This is the required capstone course for the Bachelor of 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 Bachelor of Science in Technology outcomes. The learning statements must be supported by documented evidence that demonstrates the outcomes have been met.

Graduate Level

BUS 500

Accounting for Managers

3 credits

This course introduces accounting procedures and concepts used to meet the information needs of management. Covers the identification, analysis, interpretation, and reporting of cost information for decision making and control in emerging economy organizations.

BUS 501

Business Communications

3 credits

This course focuses on the development of clear written communication and oral presentation skills. It examines a variety of communication techniques, formats, and processes for sharing organizational information. The course explores the use of audiovisual and electronic media to enhance the quality of presentation and communication.

BUS 502

Global Business Environment

3 credits

This course examines the global business environment and its impact on an organization's business strategy and decision making. It focuses on the complexities and risk/reward assessments that arise due to highly diversified markets, cross cultural issues, globalization, international organizations (WTO, IMF, World Bank, etc.), nongovernmental organizations (NGOs), foreign direct investment, and currency risk challenges.

BUS 503

Quantitative Analysis

3 credits

This course offers a review of the major quantitative techniques required for successful performance in graduate-level quantitative courses. It emphasizes descriptive statistics, inferential statistics, and math models with business applications to analyze management and organizational problems. Topics include measures of central tendency and variation, probability distributions, estimation, hypothesis

testing, linear and multivariate regression and correlation, decision theory, linear programming, time series and supply chain management, transportation and assignment models, and inventory management and queuing theory models.

BUS 504

Human Resource Management

3 credits

This course offers an overview of the evolution of human resource management and an overview of the basic functions of HR management, including: manpower planning; recruitment and selection; job analysis and design; performance management and appraisal; motivation; labor law; training and development; compensation and rewards; HR strategy; strategic, corporate, and HRM objectives; HRM policies, practices and leadership behavior; employee involvement; team building; and self-managed teams.

BUS 505

Finance

3 credits

This course focuses on balancing finance, marketing, and operating decisions for doing business in a multi-currency environment. It includes a review of the basic role of finance in a corporation and how management decisions are made from the finance perspective.

BUS 506

Marketing

3 credits

This course presents a systematic framework for understanding marketing management and strategy. It focuses on creating and executing marketing strategies and policies and examines the ethical, legal, social, and environmental issues relevant to the development of sound marketing strategies and policies.

BUS 511 (capstone)

Strategy and Policy

3 credits

MBA capstone course. Integrates previous study and various business disciplines to formulate, analyze, and implement effective business strategy. Students will analyze complex business situations for making strategic decisions under conditions of uncertainty. All Bus 511 students are required to complete an

online examination designed to assess the basic knowledge and understanding achieved by graduates in the Master of Business Administration program.

BUS 512

Compensation and Benefits

3 credits

This course studies the total rewards provided to employees in return for their contributions to an organization, investigates its strategic and tactical aspects, and examines current issues with compensation and benefits. The principles of modern compensation and benefits are considered from legal, practical, and theoretical perspectives. Students will examine how compensation and benefits can add strategic value by aligning total compensation with organizational goals and investigate the challenges facing organizations operating on a global scale.

BUS 520

Operations Management

3 credits

This course covers the roles of manufacturing and service operations in the organization. Topics include process flow analysis, inventory management, capacity planning, logistics, facilities location, supply chain management, total quality management, human resource management, technology management, and manufacturing and service strategy.

BUS 530

Project Management Principles and Application

3 credits

This course introduces the discipline of project management from the perspective of the professional practitioner. It uses the Project Management Body of Knowledge as a framework for managing projects in today's business environment.

BUS 535

Quality and Productivity Methods in the Management of Technology

3 credits

This course presents current management techniques and processes for improving products, services, and productivity in organizations that make extensive use of technology. It focuses on issues and solutions specific to the management of technology.

BUS 540

Strategic Management of Innovative Technology

3 credits

This course examines theories and methods to prepare managers to handle strategic issues related to the effective management of innovative technologies. It explores the principles of strategic management with direct application to technology. Integrates: strategy setting, implementation, and assessment; historical cases of business innovation through a maturation life cycle; and application of lessons learned in contemporary business cases.

BUS 545

Social Media Marketing, Applications, and Business Success

3 credits

This course will develop students' ability to strategically create and implement an effective social media marketing campaign. Focus will be placed on fully understanding and integrating appropriate social media tools for supporting and improving the effectiveness of organizations' marketing and communication processes. Students will examine social media in context with advertising, marketing, and public relations. Additionally, students will gain basic hands-on experience with current social media technology. Practical applications with both limitations and opportunities of different social media contexts will be explored to assess their impact on appropriate constituencies and/or organizational cultures. Finally, the course will focus on demonstrating best practices for developing and implementing effective techniques, tactics, and strategies to more effectively and efficiently reach target markets.

BUS 550

Contingency Planning

3 credits

This course examines the planning process in organizations to continually confront the unlikelihood of a disaster causing an unexpected interruption of normal operations. Specifically, it provides an overview of the key elements and strategies of implementing a crisis management program within an organization. Undertaking a business function analysis approach, students will be able to define anticipated consequences when a disruption of normal organizational operations occurs and develop a recovery plan built around desired outcomes.

BUS 552
Leadership
3 credits

This course focuses on the leadership process within the broad context of organizational dynamics. It explores leadership from four different perspectives: the leader; the follower; the situation; and leadership skills. Theories, concepts, and models are applied to workplace situations.

BUS 553
Organizational Behavior
3 credits

This course examines the application of behavioral science to organization behavior, formal and informal groups, structure and management processes, decision making and controlling processes, communication within the organization, and organizational development. It covers: theories of organization and management; individual behavior; group dynamics; organizational change; organizational performance, efficiency, and effectiveness; and the impact of technology on the workplace and its constituents.

BUS 554
Change Management
3 credits

This course presents a study of the process of change and change management. It focuses on the types of changes that take place within organizations, identifying the key issues and challenges associated with each type of change. Utilizes macro and micro tools for working with change, including management skills and styles, communications patterns, and force-field and gap analysis. The course covers the human and economic factors in organizational change and restructuring.

BUS 560
Conflict Management
3 credits

This course provides an introduction to the field of conflict management and resolution. How do conflicts in the workplace emerge? What causes conflicts to escalate or de-escalate? Is this something we can predict or control? How do conflicting parties affect outcomes? What are the roles and responsibilities of management? Of third-party intermediaries? This course will focus on the analysis of workplace conflict, and practices and strategies for responding

to conflict by studying conflict cases. The emphasis is on finding the opportunity in conflict, and working towards constructive outcomes.

BUS 565
Social Media: Metrics
3 credits

This course introduces the various measures used to describe outputs, outtakes, and outcomes of communication work, particularly focusing on social media. The course will cover terminology, review applicable cases, and measure both social and mainstream media. It will prepare you to assess the current state of measurement—the issues, problems, resolution, and means being employed in the profession. The course will examine measurement in a public relations context rather than a marketing/advertising context.

BUS 570
Information Technology
3 credits

This course examines the strategic, operational, and ethical uses of information technology. It explores global and electronic markets and data management, and it examines how IT can support customer and supply chain management.

BUS 580
Management of Information Security
3 credits

The course addresses the role of management in protecting an organization's information assets. It looks at various aspects of Information Security Management such as risk management, systems security planning, business continuity planning, disaster recovery planning, and cryptography in the overall process of securing corporate and government information. It considers the measures businesses may use to anticipate and provide appropriate responses to changes in public and government recommendations on mobile device security, adaptive threat defense, Web 2.0, virtualization, data leakage, and security governance.

BUS 590
Special Topics in
Network Security Management **3 credits**

This course provides a comprehensive overview of network security from a management perspective. Topics include risk assessment and management, computer security, network security threats, and disaster planning.

CYS 501
Communication Security **4 credits**

This course is an introduction to network security fundamentals, security policies, networking threats, and technologies. Design and implementation of secure communications networks, network management, and network scanning are covered. Technical topics are Internet Protocol Security (IPSec) Virtual Private Network (VPN), Internet Control Message Protocol (ICMP), Network Address Translation (NAT), and Dynamic Host Configuration Protocol (DHCP) design considerations and device hardening. Students learn how to implement a security plan, itemize security threats, and list the elements of security in network systems. Honeypots, sinkholes, and other network defenses are examined. Real-world cases are discussed.

CYS 522
Advanced Networking **3 credits**

This course will review several advanced networking topics, including wireless and mobile networking, satellite and near field communications, RFID (Radio Frequency Identification), and the use of cryptography and encryption in data transmission and networking. This course will also discuss privacy and security issues related to the use of these networking technologies.

CYS 526
Cyber Attacks and Defense **3 credits**

This course investigates security issues, vulnerabilities, and mechanisms to identify, respond to, and prevent cyberattacks and to build active defense systems. The course will follow the formal ethical hacking methodology, including reconnaissance, scanning and enumeration, gaining access, escalation of privilege,

maintain access and reporting. Ethical Hackers are computer and network experts who attack security systems on behalf of its owners, seeking vulnerabilities that a malicious hacker could exploit. Students will have hands-on experiences in ethical hacking and vulnerability assessment tools.

CYS 541
Ethics, Legal, and Compliance
Issues in Cybersecurity **3 credits**

This course examines the ethical, legal, and regulatory compliance issues related to the practice of cybersecurity. It focuses on the requirements, challenges, and dilemmas of data protection, due diligence, privacy laws, fraud and risk management, intellectual property, and ethical corporate codes of conduct. It covers key mandates and laws, including the Foreign Corrupt Practices Act (FCA) and the Payment Card Industry Data Security Standards (PCI DSS). To minimize liabilities and reduce risks from electronic and physical threats and reduce the losses from legal action, the information security practitioner must understand the current legal environment and stay informed of emerging laws and regulations.

CYS 560
Information Assurance **3 credits**

This course will focus on providing students with insights, guidance, and best practices on the principles of information security. Students will examine the foundations of information security as defined by experts and ISC2, which is considered a definitive source for information security best practices. Students will examine information security using the 10 domains of knowledge as our guidebook. The materials will include course textbooks, other sources, and case studies to support class discussions. Students will learn to apply some of the information security knowledge and skills through individual activities. The course will include an opportunity to apply the course topics to a mock digital crime scene.

CYS 565**Security Management Awareness 3 credits**

This course introduces Security Management awareness and provides important and cost-effective methods to protect sensitive information. Through a structured environment of physical, computer, and network security measures, implementation of effective user training, establishment of policies and procedures, and sharing of knowledge and expertise within an organization to protect sensitive information, each student is provided essential information to create and maintain a secure environment.

CYS 575**IT Risk Analysis and Management 3 credits**

This course examines information security risk analysis and management from a business perspective. The course will provide an overview of the key aspects of risk analysis and management, including asset identification and associated risk identification, qualitative and quantitative risk assessment and prioritization, determination of risk mitigation strategies, budgeting for risk, and ongoing risk management. This course will provide knowledge, skills, and techniques to identify, prioritize, and manage the many IT security risks facing businesses today. Students will also examine how IT risk management supports IT governance and decision making by businesses. The role of risk analysts, auditors, security personnel, and management will be discussed.

CYS 585**Digital Crime Prevention and Investigation 4 credits**

This course provides an in-depth analysis of the digital defense planning, technologies, and methods to safeguard organizational networks, databases, and applications; and the proper handling of electronic evidence (e-evidence) in digital crime investigations. It presents a plan-protect-respond framework of digital security and the interaction of policies, implementation, and oversight; and how to perform a computer forensic investigation. Regulatory and legal electronic records management (ERM) and email retention requirements are thoroughly covered. Students learn how to

search, analyze, and report e-evidence and the legal requirements for presenting admissible evidence to the court. recovery and analysis of digital evidence, addressing legal and technical issues.

CYS 590**Special Topics in Cybersecurity 4 credits**

This is a capstone course for the Graduate Certificate in Cybersecurity Management. It is designed to explore the most up-to-date technologies used to combat and mitigate the evolving threats within the domain of cybersecurity. Through the analysis of vulnerabilities, failure analysis, and continuous improvement of first-line defenses, and knowledge of relevant standards, the cybersecurity expert must be prepared for threats of an unknown origin at all times.

CYS 595**Capstone Project in Cybersecurity 4 credits**

This capstone course for the Master of Science in Cybersecurity examines computer security technology and principles, including cryptography, authentication, access control, and database security; software security; management issues, including physical and infrastructure security; human factors; and security auditing. This course also covers IT security management, risk assessment, and legal and ethical considerations.

Technology Programs

Choosing a Degree Program in Technology

You may find it helpful to compare the requirements for each degree with your own educational background and career aspirations to determine the best degree for you. Professionals in your field of choice may be able to advise you about the preparation necessary for particular areas, and graduate school admissions counselors can advise you about requirements for entry into specific graduate schools. Excelsior College advisors can offer you general information about how previous study might apply to degree requirements and about your general options for continued study.

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Important: It is important for you to keep us informed of your current contact information, so we can reach you. You can update your address, phone numbers, fax number and email preference on our website, through your MyExcelsior user account, or you can call us with this information.

**www.excelsior.edu/
MyExcelsior**

The bachelor's degree programs in electrical engineering technology and nuclear engineering technology are accredited by the Engineering Technology Accreditation Commission of ABET, <http://www.abet.org>, 111 Market Place, Suite 1050, Baltimore, MD 21202, 410-347-7700. ABET is a specialized accrediting agency recognized by the Council for Higher Education Accreditation (CHEA).

The Technology Degrees

Because of limited technological degree program opportunities across the country, completing degree requirements at a distance is often the only option for adults with technical backgrounds acquired at institutions of higher education, on the job, and/or in the military. As an adult learner undertaking study for a technology degree at a distance, you should familiarize yourself with the various academic requirements and policies that form the basis of available programs and make your educational decision based on a complete understanding of all relevant factors. Included here is a summary of the most important information regarding the Excelsior College technology degree programs.

Policies Specific to *All* Technology Programs

The Excelsior College ***Student Policy Handbook*** is your resource for understanding the academic and administrative policies that are important to your academic success. It includes a wide range of information from 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.

Policies and procedures that apply specifically to the technology degree programs are listed on the following pages. File your *Handbook* with your other important academic papers and this program catalog for easy reference.

Minimum Academic Average

You must have a cumulative grade point average of C (2.00) or better in order to qualify for graduation from Excelsior College. Only courses or examinations with grades of C or higher (to include pass [P] grades) may be used to satisfy technology component and other specific requirements.

Time Limits on Coursework

Since the content of different technologies changes at varying rates, most degree programs have specific time limits applied to certain technology component courses submitted for transfer credit. Unless otherwise specified, the time limit for the application of credits for information technology and electrical technology is 10 years prior to the date of enrollment. See particular degree information for further details.

Integrated Technology Assessment

All students must complete this capstone course. It is an online portfolio development experience that requires students to reflect on their past academic and professional experiences and use the information gained to develop learning statements related

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Note: Throughout this catalog the term “credits” is used to indicate semester hours. Quarter hours are converted to semester hours by multiplying quarter-hour values by two-thirds.

to degree program outcomes. These learning statements must be supported by documented evidence demonstrating that the outcomes have been met.

Second Degree Restrictions

No student is permitted to earn a second technology degree in the same or similar area of study or focus. Please refer to your *Student Policy Handbook* for specific information.

Mathematics Policy

Arithmetic courses and other mathematics courses designated as developmental or remedial may not be used toward the degree. No more than 9 credits of math below the level of calculus may be applied to any degree. Representative titles of math courses below the level of calculus include College Math, College Algebra, Trigonometry, and Precalculus.

Business/Industry/Military Training

Courses offered by business, industry, and the military tend to be application-oriented and may not contain sufficient depth and breadth of content to meet our technology core requirements. Transfer credit from the Community College of the Air Force, for example, is usually applicable to the arts and sciences, career/professional, or free elective credits components of our technology degree programs. We encourage you to contact our Admissions Office before you enroll if you have questions about how your business, industry, and/or military courses will apply.

Diversity

Excelsior College encourages you to plan your program in the humanities and social sciences to include study of the diverse perspectives of various ethnic and cultural groups as well as investigation of the fundamental assumptions of Western civilization.

Requirements for *All* Technology Degree Programs

Every Excelsior College technology degree program requires a specific number of semester hours of credit in each of its component areas. These areas include an arts and sciences component, a technology component (or, in some programs, a career/professional component) and, for some degrees, a free elective component in which you may earn credits through applicable coursework or examinations in subject areas that interest you to individualize your program design.

Within the arts and sciences component, you must earn a specified number of credits by successfully completing coursework or examinations in the humanities, social sciences/history, and natural sciences/mathematics areas. Within the technology component (or career/professional component), you must earn a specified number of credits by successfully completing coursework in core requirement and technology elective areas. The free elective component includes courses taken in any discipline. A maximum of two credits in physical education activity courses may be applied to your degree.

Written English Requirement (WER)

Students are required to demonstrate competence in expository writing in English by completing one of the following for the associate degree and two of the following for the bachelor's degree.

1. Examination

- a. Excelsior College® Examination **ENGx111 English Composition** (fulfills the requirement for associate and bachelor's degrees)
- b. UExcel® examination, **ENGx110 College Writing** (fulfills the requirement for the associate degrees; partially fulfills the requirement for the bachelor's degrees)
- c. Advanced Placement (AP) English Examinations (fulfills the requirement for the associate and bachelor's degrees)

Note: Excelsior College does not accept the CLEP General Examination in English Composition with Essay toward this requirement.

2. **College coursework:** Successful completion of one college course (minimum 3 semester- or four quarter-hour credits; minimum grade of C) from one of the following options for the associate degrees, and from two of the following options for the bachelor's degrees:

- a. Expository writing courses such as Excelsior College's **ENG 101 English Composition**, **ENG 201 Writing for the Professions**, or **MLS 500 Graduate Research and Writing** (some restrictions apply).
- b. Two institutionally designated writing-intensive, writing-emphasis courses.
- c. Two applied writing courses. The applied writing courses must focus on different applications of the writing process.

Note: Coursework must be from an English-speaking institution. English as a Second Language courses may not be used to satisfy 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 New York State Board of Regents National College Credit Recommendation Service (formerly National PONS) 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.

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

Information Literacy Requirement

Students are expected to demonstrate competency in information literacy. The standards, performance indicators, and outcomes for this requirement were selected from the Association of College and Research Libraries (ACRL) Information Literacy Competency Standards for Higher Education. Competency will be assessed through a one-credit pass/fail course offered online by Excelsior College [**INL 102 Information Literacy**] or through successful completion of a course taken at a regionally accredited college covering comparable content.

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

Students seeking additional information should check the Excelsior College website or consult with their academic advising team.

Associate Degree Programs in Technology

For the technology student, the Excelsior College School of Business & Technology offers three programs at the associate degree level focused specifically on high-growth industries with exciting career opportunities. You may apply workplace and military training as credit, accelerating the path to your degree.



Excelsior College offers virtual student chapters of the Association of Computing Machinery (ACM), Institute of Electrical and Electronic Engineers (IEEE), and the American Nuclear Society (ANS). Memberships are open to currently enrolled Excelsior College students. Visit www.excelsior.edu for more information about these chapters.

Image courtesy of the Department of Defense

Requirements and Policies for the Associate Degrees in Technology

Every Excelsior College technology degree program requires a specific number of semester hours of credit in each of its component areas. These areas include an arts and sciences component, a technology component (or, in some programs, a career/professional component), and a free elective component in which you may earn credits through applicable coursework or examinations in subject areas that interest you to individualize your program design.

Within the arts and sciences component, you must earn a specified number of credits by successfully completing coursework or examinations in the humanities, social sciences/history, and natural sciences/mathematics areas. Within the technology component (or career/professional component), you must earn a specified number of credits by successfully completing coursework in core requirement and technology elective areas. The free elective component includes courses taken in any discipline.



image courtesy Dept. of Defense

You are subject to the degree requirements in effect at the time of your enrollment or program/degree transfer (program transfer refers to change from one school to another; degree transfer refers to changing degrees within the same school).

The faculty reserves the right to make changes in curricular requirements as necessary to reflect professional practice. Changes may affect both enrolled and prospective students. It is your responsibility to keep informed of such changes. We make every effort to inform you of changes as they occur. Current information about degree requirements is posted on our website. Information about changes to degree requirements is also made available on our website.

Associate in Applied Science in Technical Studies (*with area of focus*)

While this degree program was designed specifically to meet the needs of those with military backgrounds by recognizing the college-level learning that takes place as a result of military training, it may also be appropriate for some non-military students. Graduates of the Associate in Applied Science in Technical Studies program who are interested in continuing on to baccalaureate-level study should contact the technology advising team for advice on the preferred program of study.

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Note: Where an Excelsior College exam or course will satisfy a requirement, it is shown in [brackets]. Excelsior College® Examinations (ECE) have an “x” after the department, for example, [BUSx310 Ethics: Theory & Practice].

This degree program offers areas of focus in the following subject areas:

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

Program Outcomes

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

1. Demonstrate effective 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 or more of the social sciences.
4. Demonstrate a comprehension of cultural diversity, human behavior, and the relationship between technology and society.
5. Demonstrate the application of technology in the area of focus.

Areas of Focus Outcomes

Computer Technologies

Upon successful completion of the Excelsior College Associate in Applied Science in Technical Studies with a Computer Technologies Area of Focus, the graduate 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.

CHART 1

Associate in Applied Science in Technical Studies

AAS

**Total Degree
Credits
Required: 60**

Arts and Sciences Component

	Credit Hours
Written English Requirement	3
Humanities (must be in subject other than writing)	3
Social Sciences/History	3
Behavioral Sciences	3
Natural Sciences/Mathematics (one natural science course and one college-level math course)	6
Arts and Sciences Electives	2

Total Arts and Sciences

20

Career Component *

TECH 290 Integrated Technology Assessment (capstone) is the required capstone course included in the career component.	20
--	----

Total Career Component

20

Elective Component

Free Elective Component (includes 1-credit Information Literacy Requirement)	20
---	----

Total Elective Component

20

* **TECH 290 capstone course** is required and must be taken through Excelsior College. It cannot be transferred in. A grade of "C" or higher is required.

Electromechanical Technologies

Upon successful completion of the Excelsior College Associate in Applied Science in Technical Studies with an Electromechanical Technologies Area of Focus, the graduate 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.

Electronic/Instrumentation Technologies

Upon successful completion of the Excelsior College Associate in Applied Science in Technical Studies with an Electronic/Instrumentation Technologies Area of Focus, the graduate 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.

Nuclear Technologies

Upon successful completion of the Excelsior College Associate in Applied Science in Technical Studies with a Nuclear Technologies Area of Focus, the graduate 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.

Power Plant Technologies

Upon successful completion of the Excelsior College Associate in Applied Science in Technical Studies with a Power Plant Technologies Area of Focus, the graduate will be able to:

1. 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.
2. Identify the key principles in the proper operation and testing, troubleshooting of boilers, turbines, electric generators, pumps, and other auxiliary power plant equipment.

Degree Requirements

60 credits

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

- 20 credits minimum in the arts and sciences
- 20 credits minimum in the career component (to include the capstone)
- 20 credits in the free electives component (to include information literacy)

I. 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 Technical Studies degree requires a minimum of 20 credits in the arts and sciences, distributed as follows:

Humanities

At least 6 credits must be earned in humanities. Three credits must come from a course that satisfies the written English requirement [**ENGx111 English Composition**, **ENG 101 English Composition**, **ENG 201 Writing for the Professions**] (see page 80). The remaining 3 credits must be in humanities subjects

other than writing, which include literature, foreign languages, religion, philosophy, art, ethics, and music.

Social Sciences/History

At least 6 credits must be earned in social sciences/history, including a course (minimum 3 credits) in behavioral sciences. *Social sciences/history subjects include, but are not limited to*, political science, anthropology, economics, geography, and history. *Behavioral sciences subjects include, but are not limited to*, psychology and sociology.

Natural Sciences/Mathematics

A 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.

II. Career Component (20 credits)

A minimum of 20 credits are required in the career component. The career component consists of technology credits related to your career field. TECH 290 Integrated Technology Assessment (capstone) is the required capstone course included in the career component.

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

III. Free Elective Component (20 credits)

The degree program allows room for up to 20 credits in free electives. Applied to this component is the 1 credit for Excelsior College's information literacy requirement [INL 102 Information Literacy]. See page 81 or refer to our website for more information about information literacy.

Associate in Science in Nuclear Technology

Nuclear Uniform Curriculum Program (NUCP) Non-Licensed Operator Option

The Associate in Science in Nuclear Technology degree, as part of the Nuclear Uniform Curriculum Program (NUCP), is designed specifically for students who want to start their nuclear career as non-licensed nuclear operators. The curriculum provides a framework within which students obtain foundational knowledge of core nuclear industry topics **via Excelsior College coursework** in technology, the physical sciences, and mathematics, as required by the National Academy for Nuclear Training (NANT). **Eligible students who complete specific core curriculum in the Associate in Science in Nuclear Technology degree with a grade of "B" or better, as part of the Nuclear Uniform Curriculum Program (NUCP) and as required by the National Academy for Nuclear Training (NANT), may receive a NUCP certificate. This NUCP certificate states that the student successfully completed nuclear fundamental training topics, and may allow them to bypass duplicate fundamentals training topics once employed by a nuclear plant. Transfer in of prior credits earned in core curriculum areas is not allowed.**

Program Outcomes


Upon successful completion of the Excelsior College Associate in Science in Nuclear Technology program, the graduate will be able to:

1. Demonstrate a fundamental knowledge of nature with the ability to understand, measure, and provide quantitative expressions of the phenomena of nature.
2. Apply the fundamentals of algebra, trigonometry, and higher mathematics to problem solving in nuclear areas.
3. Practice good oral and written communications.

CHART 2A

Associate in Science in Nuclear Technology

Nuclear Uniform Curriculum Program (NUCP), NLO Path



Total Degree Credits Required: 61

Arts and Sciences Component*	Credit Hours
Written English Requirement	3
Humanities (3 credits must be in a subject other than writing)	6
Social Sciences/History	6
Mathematics and Natural Sciences	15
<ul style="list-style-type: none"> Mathematics (at the level of College Algebra and above) Natural Sciences (to include Physics I, Chemistry, Atomic Physics, Heat Transfer, Fluid Flow, one lab in Physics) <p>Note: One physics lab is required. One chemistry lab is required.</p>	
Total Arts and Sciences Component	30
Information Literacy Requirement	1
Technology Component**	
Core Requirements Electrical Theory Computer Applications Health Physics/Radiation Protection Nuclear Physics Plant Systems Overview Reactor Core Fundamentals Nuclear Materials Reactor Safety Design Power Plant Components NUC 295 Integrated Technology Assessment (capstone)* Nuclear Technology Electives	
Total Nuclear Technology Component	30

- Demonstrate an understanding of our cultural heritage, interpersonal relationships, the inter-relationship between technology and society, and those values essential for intelligent and discerning judgments.
- Demonstrate a working knowledge of computer applications for technical problem solving appropriate to the nuclear engineering technology discipline.
- Exhibit technical skills and techniques in electrical theory, health physics, radiation protection, shielding, reactor core fundamentals, reactor systems, applied thermodynamics, nuclear instrumentation and control systems, and reactor safety.
- Demonstrate an understanding of nuclear processes and operation, the relationship between design and operation, and the role of the human and environmental interface in the operation and maintenance of nuclear systems.
- Demonstrate knowledge of nuclear plant operation, which includes the areas of radiation protection procedures, current applicable rules and regulations, maintenance and control of nuclear systems, quality assurance, and environmental integrity.

Degree Requirements

61 credits

The Associate in Science in Nuclear Technology, NUCP NLO Path requires a minimum of 61 credits, distributed as follows:

- 30 credits minimum in the arts and sciences
- 30 credits minimum in the nuclear technology component
- 1 credit to satisfy the information literacy requirement

* Grade of B or better is required in all sciences and math supportive of nuclear. These courses must be taken through Excelsior College and are not allowed to be transferred in from prior colleges/universities, coursework, or other sources of credit.

** Grade of B or better is required in all technology component courses. These courses must be taken through Excelsior College and are not allowed to be transferred in from prior colleges/universities, coursework, or other sources of credit.

I. Arts and Sciences Component (30 credits)

The Associate in Science in Nuclear Technology, NUCP NLO Path, requires a minimum of 30 credits in the arts and sciences distributed as follows:

Written English Requirement

At least 3 credits must come from a course that satisfies the written English requirement (see page 80). **[ENGx111 English Composition, ENG 101 English Composition, ENG 201 Writing for the Professions]**

Humanities

You must successfully complete at least 6 credits in the humanities, with at least 3 credits earned in subjects other than writing. *Humanities subjects other than writing include, but are not limited to*, literature, foreign languages, religion, philosophy, art, ethics, and music. 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 6 credits in social sciences/history. *Social sciences/history subjects include, but are not limited to*, behavioral sciences, political sciences, anthropology, and economics.

Natural Sciences/Mathematics

You must successfully complete a minimum of 15 credits in natural sciences/mathematics as follows:

- Mathematics at the level of College Algebra and above *†
- Physics I *†
- Physics I Lab *†
- Chemistry *†
- Chemistry Lab *†
- Atomic Physics *†
- Heat Transfer/Fluid Flow *†

Note: Two labs are required, one lab in Chemistry and one lab in Physics.

* Courses must be taken through Excelsior College. They cannot be transferred in.

† Grade of B or better is required.

II. Nuclear Technology Component (30 credits)

The Associate in Science in Nuclear Technology, NUCP NLO Path, requires a minimum of 30 credits in technology distributed as follows:

- Electrical Theory*†
- Computer Applications*†
- Health Physics/Radiation Protection*†
- Nuclear Physics*†
- Plant Systems Overview*†
- Reactor Core Fundamentals*†
- Power Plant Components*†
- NUC 295 Integrated Technology Assessment (capstone)*†
- Nuclear Technology Electives (if needed)*†

III. Information Literacy Requirement (1 credit)

Students are expected to demonstrate competency in information literacy **[INL 102 Information Literacy]**. See page 81 or visit our website for more information about this requirement.

Associate in Science in Nuclear Technology

This program includes an arts and sciences component, a nuclear technology component, and an information literacy requirement. The nuclear technology component's core requirements are designed to ensure basic college-level competence in the major functional areas of nuclear technology: electrical theory, computer applications, health physics/radiation protection, radiation measurement lab, plant systems overview, reactor core fundamentals, reactor safety design, atomic physics, and nuclear physics. Electives from nuclear and related subject areas may be applied toward completion of the technology component.

CHART 2B

Associate in Science in Nuclear Technology

AS

Total Degree Credits Required: 61

Arts and Sciences Component

	Credit Hours
Written English Requirement	3
Humanities (3 credits must be in a subject other than writing)	6
Social Sciences/History	6
Mathematics and Natural Sciences	
■ Mathematics (at the level of College Algebra and above)	15
■ Natural Sciences (to include Physics I, Chemistry, Atomic Physics, Heat Transfer, Fluid Flow, one lab in Physics, one lab in Chemistry)	

Total Arts and Sciences Component 30

Information Literacy Requirement 1

Technology Component

Core Requirements*

Electrical Theory
Computer Applications
Health Physics/Radiation Protection
Nuclear Physics
Plant Systems Overview
Reactor Core Fundamentals
Nuclear Materials
Reactor Safety Design
Power Plant Components
NUC 295 Integrated Technology Assessment (capstone)*
Nuclear Technology Electives

Total Nuclear Technology Component 30

*The **NUC 295 capstone course** is required and must be taken through Excelsior College and cannot be transferred in.

Note: One physics lab and one chemistry lab are required.

Program Outcomes

Upon successful completion of the Excelsior College Associate in Science in Nuclear Technology program, the graduate will be able to:

1. Demonstrate a fundamental knowledge of nature with the ability to understand, measure, and provide quantitative expressions of the phenomena of nature.
2. Apply the fundamentals of algebra, trigonometry, and higher mathematics to problem solving in nuclear areas.
3. Practice good oral and written communications.
4. Demonstrate an understanding of our cultural heritage, interpersonal relationships, the inter-relationship between technology and society, and those values essential for intelligent and discerning judgments.
5. Demonstrate a working knowledge of computer applications for technical problem solving appropriate to the nuclear engineering technology discipline.
6. Exhibit technical skills and techniques in electrical theory, health physics, radiation protection, shielding, reactor core fundamentals, reactor systems, applied thermodynamics, nuclear instrumentation and control systems, and reactor safety.
7. Demonstrate an understanding of nuclear processes and operation, the relationship between design and operation, and the role of the human and environmental interface in the operation and maintenance of nuclear systems.
8. Demonstrate knowledge of nuclear plant operation, which includes the areas of radiation protection procedures, current applicable rules and regulations, maintenance and control of nuclear systems, quality assurance, and environmental integrity.

Degree Requirements

61 credits

The Associate in Science in Nuclear Technology requires a minimum of

61 credits, distributed as follows:

- 30 credits minimum in the arts and sciences
- 30 credits minimum in the nuclear technology component
- 1 credit to satisfy the information literacy requirement

I. Arts and Sciences Component (30 credits)

The Associate in Science in Nuclear Technology requires a minimum of 30 credits in the arts and sciences distributed as follows:

Written English Requirement

At least 3 credits must come from a course that satisfies the written English requirement (see page 80). **[ENGx111 English Composition, ENG 101 English Composition, ENG 201 Writing for the Professions]**

Humanities

You must successfully complete at least 6 credits in the humanities, with at least 3 credits earned in subjects other than writing. *Humanities subjects other than writing include, but are not limited to,* literature, foreign languages, religion, philosophy, art, ethics,

and music. 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 6 credits in social sciences/history. *Social sciences/history subjects include, but are not limited to,* behavioral sciences, political sciences, anthropology, and economics.

Natural Sciences/Mathematics

You must successfully complete a minimum of 15 credits in natural sciences/mathematics as follows:

- Mathematics at the level of College Algebra and above
- Physics I
- Physics I Lab
- Chemistry
- Chemistry Lab
- Atomic Physics
- Heat Transfer/Fluid Flow

Note: One lab is required (Physics).

II. Nuclear Technology Component (30 credits)

The Associate in Science in Nuclear Technology requires a minimum of 30 credits in technology distributed as follows:

- Electrical Theory
- Computer Applications
- Health Physics/Radiation Protection
- Nuclear Physics
- Plant Systems Overview
- Reactor Core Fundamentals
- Nuclear Materials
- Reactor Safety Design
- Power Plant Components
- NUC 295 Integrated Technology Assessment (capstone)*
- Nuclear Technology Electives

*The **NUC 295 capstone course** is required and must be taken through Excelsior College. It cannot be transferred in.

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Technology Programs Advising Team:

toll free 888-647-2388, ext. 1341

Information Literacy Requirement FAQ:

www.excelsior.edu/infoLitFAQ

Excelsior College Community Resources:

www.excelsior.edu/MyExcelsior, click on Communities tab

III. Information Literacy Requirement (1 credit)

Students are expected to demonstrate competency in information literacy [INL 102 Information Literacy]. See page 81 or visit our website for more information about this requirement.

Associate in Science in Technology

The Associate in Science in Technology is designed for adults in industry, government, and the military. Earning this degree can be a goal in itself or can serve as an intermediate step in earning a Bachelor of Science in Technology. Within most technology fields, individuals with associate in science degrees are usually employed as technicians. They support professionals and work in occupational areas, including field service, design, testing, manufacturing, and quality assurance.

This degree program allows you to earn a technology degree with an area of focus in one of five technical areas. An area of focus is 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 areas of focus are:

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

Refer to pages 95–98 to review sample area of focus subjects and technical elective subjects.

Program Outcomes

Upon successful completion of the Excelsior College Associate in Science in Technology program, the graduate will be able to:

1. Demonstrate effective oral and written communication skills.
2. Apply observation and measurement skills to develop quantitative expressions of natural science phenomena.
3. Apply algebra, trigonometry, and higher order mathematics to solve technology related problems.
4. Demonstrate introductory college-level proficiency in one or more of the social sciences.
5. Demonstrate a comprehension of diverse cultural heritage, interpersonal relationships, the relationship between technology and society, and personal values to make intelligent and discerning judgments.
6. Demonstrate a proficiency in computer applications used in technology areas.

Areas of Focus Outcomes

Computer Technologies

Upon successful completion of the Excelsior College Associate in Science in Technology with a Computer Technologies Area of Focus, the graduate 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

Electromechanical Technologies

Upon successful completion of the Excelsior College Associate in Science in Technology with an Electromechanical Technologies Area of Focus, the graduate will be able to:

CHART 3

Associate in Science in Technology

Total Degree Credits Required: 61

AS

Arts and Sciences Component

Credit Hours

Communications
(must include a course that satisfies the 3-credit Written English Requirement)

6

Humanities (3 credits must be in a subject other than writing)

3

Social Sciences/History

6

Natural Sciences

6

Mathematics
(at the level of College Algebra and above)

6

Arts and Sciences Electives

3

Total Arts and Sciences Component

30

Information Literacy Requirement

1

Technology Component

Credit Hours

Areas of Focus

At least 18 credits must be earned in a chosen area of focus.

TECH 295 Integrated Technology Assessment (capstone) is the required capstone course included in the Technology component.*

See pp. 95–98 for sample area of focus and technical elective subjects for each focus area.

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

Technical Electives including one course in computer applications or programming

12

Total Technology Component

30

*TECH 295 capstone course is required and must be taken through Excelsior College and cannot be transferred in.

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.

Electronic/Instrumentation Technologies

Upon successful completion of the Excelsior College Associate in Science in Technology with an Electronic/Instrumentation Technologies Area of Focus, the graduate 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.

Nuclear Technologies

Upon successful completion of the Excelsior College Associate in Science in Technology with a Nuclear Technologies Area of Focus, the graduate 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.

Power Plant Technologies

Upon successful completion of the Excelsior College Associate in Science in Technology with a Power Plant Technologies Area of Focus, the graduate will be able to:

1. 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.

2. Identify the key principles in the proper operation and testing, troubleshooting of boilers, turbines, electric generators, pumps, and other auxiliary power plant equipment.

Refer to pages 95–98 to review sample area of focus subjects and technical elective subjects.

Degree Requirements

61 credits

The Associate in Science in Technology degree requires a minimum of 61 credits, distributed as follows:

- 30 credits minimum in the arts and sciences
- 30 credits minimum in the technology component
- 1 credit to satisfy the information literacy requirement

I. Arts and Sciences Component (30 credits)

The Associate in Science in Technology requires a minimum of 30 credits in the arts and sciences distributed as follows:

- A. **Communications:** At least 6 credits must be earned in communications, including a course (minimum of 3 credits) that satisfies the written English requirement [**ENGx111 English Composition, ENG 101 English Composition, ENG 201 Writing for the Professions**] (see page 3). Courses in speech, technical writing, or similar courses either in written or oral communications are applicable toward the communications requirement.
- B. **Humanities:** At least 3 credits must be earned in humanities subjects other than writing. *Humanities subjects include, but are not limited to, literature, foreign languages, religion, philosophy, art, ethics, and music.*
- C. **Social Sciences/History:** At least 6 credits must be earned in social sciences/history. *Social sciences/history subjects include, but are not limited to, political science, anthropology, economics, geography, history, psychology, and sociology.*

- D. **Natural Sciences:** At least 6 credits must be earned in natural sciences. Some sample natural science courses are biology, chemistry, astronomy, oceanography, and geology.
- E. **Mathematics:** At least 6 credits must be earned in mathematics at the level of College Algebra or higher [MAT 116 Precalculus Algebra, MAT 118 Trigonometry, TECH 201-202 Foundations of Technology Problem Solving I-II].
- F. **Arts and Sciences Electives:** The remaining 3 credits needed to satisfy the 30-credit requirement may be earned in any area of the arts and sciences.

II. Technology Component (30 credits)

The Associate in Science in Technology requires a grade of C or better for applicable credit, and a minimum of 30 credits in technology distributed as follows:

- A. **Area of Focus:** At least 18 credits must be earned in an area of focus. See pages 95–98 for a list of sample area of focus subjects. **TECH 295 Integrated Technology Assessment** (capstone) is the required capstone course included in the career component.
- B. **Technical Electives:** A maximum of 12 credits in technical electives may be applied toward the Associate in Science in Technology. This includes at least 3 credits to satisfy the Computer Applications requirement [IT 210 Object Oriented Programming or TECH 221 Business Communication and Information Systems]. See pages 95–98 for a list of sample technical electives for each area of focus.

III. Information Literacy Requirement (1 credit)

Students are expected to demonstrate competency in information literacy [INL 102 Information Literacy]. See page 81 or visit our website for more information about this requirement.

Degree-Specific Policies

Policies and procedures that apply specifically to the Associate in Science in Technology degree follow. Refer to your *Student Policy Handbook* for academic and administrative policies that apply to all students and programs.

Time Limit on Coursework

Because of the rapidly changing nature of technology, Excelsior College has established a time-related restriction on the application of credit from previous computer- and electronics-related coursework, with the exception of Circuit Theory I and Circuit Theory II. To meet this requirement, relevant coursework must have been completed more recently than 10 years prior to enrollment in Excelsior College. The time limit may be appealed with verification of appropriate and current professional and/or academic experience showing that electronics/computer knowledge is current.

Sample Subjects for Areas of Focus and Technical Electives

Associate in Science in Technology and Bachelor of Science in Technology

Students enrolled in the Associate in Science in Technology and Bachelor of Science in Technology programs have the flexibility to explore a wide range of subjects in their declared area of focus and the opportunity to branch out into different areas of technology education to round out the program.

The following charts contain typical area of focus subjects and technical elective subjects for each of the areas of focus. While these charts do not list all of the possible subjects, they provide a solid base upon which you can plan your educational goals. As always, it is best to speak with a member of your advising team before registering for courses.

Computer Technologies

A technical discipline centered around the design, assembly, testing, and maintenance of computer circuitry and peripheral hardware.

Typical Area of Focus Subjects

AC Circuit Theory	Database Concepts
Applied Electronics	Systems Analysis and Design
DC Circuit Theory	Data Communications
Digital Circuits	Data Structures
Microprocessors	Electronic Communications
Operating Systems	Computer Security
Computer Architecture	Project Management
Digital Systems Design I	

Typical Technical Elective Subjects

Assembly Language Programming	Computer-Based Robotics
High-Level Structured Language	Statistical Quality Control
Digital Systems Design II	Control Theory
Advanced Digital Electronics	Blueprint Reading
Computer Graphics	Industrial Safety
Computer Integrated Manufacturing	Computer Programming
Software Engineering	CAD
Microprocessor Interfacing	Engineering Graphics
	Computer Security

Sample Subjects for Areas of Focus and Technical Electives

Electromechanical Technologies

A technical discipline centered around the combined efforts of the electrical engineer and mechanical engineering technologist to design, develop, and maintain devices that combine electrical, electronic, and mechanical principles in their operations.

The number of technology credits should be evenly distributed between electronics/electricity technologies and mechanical technologies.

Typical Area of Focus Subjects

Applied Circuit Theory	Pneumatic and Hydraulic Systems
Applied Mechanics	Heat Transfer
Digital Circuits	Applied Thermodynamics
Electromechanical Devices and Mechanisms	Machine Processes
Electronic Devices	Statics
Machine Components and Mechanisms	Dynamics
Microprocessors	Strength of Materials
	Material Science

Typical Technical Elective Subjects

Applied Dynamics	Mechanical Design
Applied Electronics	Power Systems Analysis
Control Systems	Programmable Controllers
Digital Signal Processing	Quality Control
Electromagnetics	Robotics
Electromechanical Control Systems	Solutions of Engineering Problems
Energy Conversion	Thermal Technology
Engineering Economics	Vibration Analysis
Industrial Electronics	Blueprint Reading
Instrumentation	Industrial Safety
Kinematics of Mechanisms	CAD
Machine and Power Systems	Computer Programming
Materials Technology	Engineering Drawing

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Technology Programs Advising Team:

toll free 888-647-2388, ext. 1341

www.excelsior.edu/MessageCenter

Excelsior College Community Resources:

www.excelsior.edu/MyExcelsior, click on Communities tab

Sample Subjects for Areas of Focus and Technical Electives

Electronic/Instrumentation Technologies

A technical discipline centered around the design, materials development, manufacture, and maintenance of devices that adapt and use electrical energy economically.

Typical Area of Focus Subjects

AC Circuit Theory	Machines and Power Systems
Electronics	Microprocessors
DC Circuit Theory	Control Systems
Digital Circuits	Data Communications
Electronic Communications	Computer Architecture
Electronic Devices	

Typical Technical Elective Subjects

Computer Network Analysis	Linear Amplifier Design
Electrical Instrumentation	Power Amplifier Design
Electromagnetics	Power Systems Analysis
Electronic Design and Fabrication	Programmable Controllers
Electronic Design Project	Switching Circuit Design
Electronic Systems Design	Blueprint Reading
Energy Conversion	Industrial Safety
High Frequency Circuit Design	CAD
Industrial Electronics	Computer Programming
Optoelectronics	Engineering Graphics

Mechanical/Welding Technologies (BS only)

A technical discipline centered around the design, materials, production, and maintenance of equipment that generates, transmits, or uses power.

Typical Area of Focus Subjects

Applied Thermodynamics	Strength of Materials
Fluid Systems	Heat Transfer
Manufacturing Processes	Applied Dynamics
Materials Technology I	Materials Technology II
Mechanical Design I	Mechanical Design
Production Control	Metallurgy
Statics	

Typical Technical Elective Subjects

Computer Aided Manufacturing	Physical Measurements and Analysis
Computer Control Systems	Quality Control
Design of Machine Elements	Robotics Technology
Energy Technology	Solar Energy
Engineering Economics	Solutions of Engineering Problems
Fluid Mechanics and Hydraulics	Statistical Quality Control
Fluid Power Systems	Thermal Technology
Heating and Air Conditioning Technology	Vibration Analysis
Heat Transfer	Blueprint Reading
Internal Combustion Engine Design	Industrial Safety
Kinematics of Mechanisms	CAD
Machine Tools	Computer Programming
Manufacturing Analysis	Electrical Theory
Mechanical Design Drawing	Electrical Drawing
Mechanical Design Project	Instrumentation
Metrology	Machine Processes
	Welding

Sample Areas of Focus Subjects and Technical Electives

Nuclear Technologies

A technical discipline centered around the design, materials, and maintenance associated with radiation shielding, radiation detection instrumentation, and emergency planning for nuclear research and power generation facilities.

Typical Area of Focus Subjects

Applied Health Physics I	Radiological Science
Emergency Planning	Reactor Chemistry
Introduction to Reactor Systems	Dynamics
Radiation Instrumentation	Statics
Radiation Measurement	Materials
Radiation Shielding	Nuclear Materials
	Radiation Protection
	Electrical Theory

Typical Technical Elective Subjects

Advanced Instrumentation	Instrument Calibration
Applied Analytical Chemistry	Interaction of Radiation with Matter
Applied Health Physics II	Metrology
Applied Instrumental Analysis	Quality Assurance
Applied Radiation Biology	Radiation Shielding II
Applied Radiochemistry	Reliability Analysis
Applied Water Chemistry	Blueprint Reading
Corrosion Science	Industrial Safety
Digital Electronics	Computer Programming
Health Physics Regulations	Welding
Industrial Electronics	

Credits toward the area of focus in the Health Physics option may be earned by passing the National Registry of Radiation Protection Technologists Examination.

Power Plant Technologies

A technical discipline centered around the design and operation of conventional electric power plants.

Typical Area of Focus Subjects

Industrial Safety	Plant Management
Environmental Compliance	Instrumentation and Control Systems
Thermodynamics	Pneumatic and Hydraulic Systems
AC/DC Theory and Circuits	Heat Transfer
Digital Electronics	Fluids

Typical Technical Elective Subjects

Boiler Design and Operation	Protective Relays
Turbine Design and Operation	Strength of Materials
Generator Design and Operation	Electrical Distribution (Plant and Switchyard)
Gas Turbine and Industrial Gas Turbine Design and Operation	Materials (w/Corrosion)
Combined Cycle Design and Operation	Water Chemistry
Diesel Engine Design and Operation	Lubrication
Transformer Design and Operation	Fuel Systems
Electronics Theory and Application	Plant Components
Electronic Instrumentation	Plant Efficiency
Microprocessors	Predictive Maintenance
	Preventive Maintenance
	Metrology
	Welding
	Blueprint Reading
	Engineering Economics

Bachelor's Degree Programs in Technology

For the technology student, the Excelsior College School of Business & Technology offers a number of programs at the baccalaureate degree level focused specifically on high-growth industries with exciting career opportunities. You may apply workplace and military training as credit, accelerating the path to your degree.



Excelsior College offers virtual student chapters of the Association of Computing Machinery (ACM), Institute of Electrical and Electronic Engineers (IEEE), and the American Nuclear Society (ANS). Memberships are open to currently enrolled Excelsior College students. Visit www.excelsior.edu for more information.

Requirements and Policies for the Bachelor's Degrees in Technology

Every Excelsior College business degree program requires a specific number of semester hours of credit in each of its component areas. These areas include an arts and sciences component, a technology or career/professional component, and a free elective component in which you may earn credits through applicable coursework or examinations in subject areas of interest to you.

The chart relevant to your degree program shows a graphic representation of the credit needed to fulfill all the requirements for your chosen degree.



You are subject to the degree requirements in effect at the time of your enrollment or program/degree transfer (program transfer refers to change from one school to another; degree transfer refers to changing degrees within the same school).

The faculty reserves the right to make changes in curricular requirements as necessary to reflect professional practice. Changes may affect both enrolled and prospective students. It is your responsibility to keep informed of such changes. We make every effort to inform you of changes as they occur. Current information about degree requirements is posted on our website. Information about changes to degree requirements is also made available on our website.

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Business Programs Advising Team:

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Student Policy Handbook:

www.excelsior.edu/StudentPolicyHandbook

Excelsior College Course Information and Registration:

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www.excelsior.edu/MyExcelsior, click on the Resources tab

Excelsior College Community Resources:

www.excelsior.edu/MyExcelsior, click on Communities tab

You are a good candidate for a bachelor's-level technology degree program if you:

- have a two-year technology degree or a significant number of credits in a technology discipline from a regionally accredited college.
- are prepared to complete coursework in mathematics at the level of College Algebra or above, which may include Discrete Math, Calculus I and II and/or Differential Equations, if required for your degree program.
- have completed or have access to professional courses that have been evaluated for college-level credit by either the American Council on Education (ACE) College Credit Recommendation Service of the Center for Adult Learning and Educational Credentials or the New York State Board of Regents National College Credit Recommendation Service (formerly known as National PONSI).

- have completed military training that has been evaluated by the American Council on Education. Based on its content and your degree program, this credit may apply toward the technology component, arts and sciences component, or free elective component.

Requirements for *All* Bachelor's Degrees in Technology

Level Requirement

Excelsior College bachelor's-level technology degree programs require 15 or 16 upper-level credits within the technology or professional component, depending on the discipline selected. A course is considered upper level if it is offered at the junior or senior level and is not introductory in content. Course credits from two-year institutions may not be used to satisfy upper-level requirements. Acceptance of course credits toward the upper-level requirement is subject to faculty approval.

Free Elective Credits

All Excelsior College technology bachelor's degree programs allow you the flexibility of using free elective credits to meet degree requirements beyond the required credits in arts and sciences and general education. Free elective credits can be earned in disciplines including, but not limited to: agriculture, architecture, business, criminal justice, education, graphic design, law, library science, medicine, and nutrition.

Bachelor of Professional Studies in Technology Management

The Bachelor of Professional Studies in Technology 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 in Technology Management makes it an excellent educational next step for graduates of Excelsior College Associate in Applied Science programs in business and technology. As with other bachelor's programs in the School of Business and Technology, credit is awarded for Excelsior College courses and examinations, courses taken at accredited institutions other than Excelsior, approved proficiency exams, and 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 PONSI).

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

Note: Where an Excelsior College exam or course will satisfy a requirement, it is shown in [brackets]. Excelsior College® Examinations (ECE) have an "x" after the department; for example, [BUSx310 Ethics: Theory & Practice].

CHART 4

Bachelor of Professional Studies in Technology Management

Total Degree Credits Required: 120

BPS

Arts and Sciences Component

(Minimum of 9 upper-level credits)

	Credit Hours
Written English Requirement	6
Humanities Elective	6
Ethics	3
Social Sciences/History Requirement	6
Social Sciences/History Electives	
Natural Sciences/Mathematics Requirement	
College Algebra or Statistics	3
Mathematics Elective	3
Natural Science Elective	3

Minimum Arts and Sciences Component

30

Additional Credit Component

(Minimum of 6 UL credits)

	Credit Hours
Any Collegiate-level Study	
May include any excess credit in Arts and Sciences, Business, or any approved free elective area	
Information Literacy	1
Total Additional Credit Component	45

Professional Component

(Minimum of 15 upper-level credits; a minimum of 9 UL credits must be in the Technology Management Core or Professional Electives)

Credit Hours

Professional Core

1. General Management
2. Leadership
3. Accounting
4. Computer Applications
5. Project Management

Technology Management Core

1. Technology and Society
2. Engineering Economics
3. Introduction to Energy Utilization
4. TECH 490 Integrated Technology Management Assessment (capstone)**

Professional Component Electives*

(Approved technology-related courses; includes 15 credits in the area of focus*)

Minimum Professional Component Requirement

45

*Areas of Focus

Fifteen credits of Professional Component Electives must be in one of the following areas:

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

**TECH 490 Integrated Technology Management Assessment is the required capstone course and must be taken through Excelsior College and cannot be transferred in.

The outcomes and specific degree requirements for the Bachelor of Professional Studies in Technology Management follow.

Program Outcomes

Upon successful completion of the Excelsior College Bachelor of Professional Studies in Technology Management program, the graduate will be able to:

1. Use commonly available workplace technology tools to communicate professional information in clear, grammatical, and effective written prose.
2. Develop and communicate cohesive arguments using appropriate supporting evidence and effective prose.
3. Interpret events using more than one perspective, with an understanding of the significance of integrating knowledge and skills in the workplace.
4. Identify, critically evaluate, and propose solutions for technology management problems.
5. Apply knowledge of mathematics and natural sciences to problem-solving in technology management contexts.
6. Demonstrate an awareness of the implications of ethics and social responsibility on the individual, the organization, and society.
7. Demonstrate information literacy.
8. Participate effectively in groups.
9. Apply project management techniques where appropriate.
10. Demonstrate a fundamental knowledge of the natural sciences, particularly as applied to the area of focus.
11. Demonstrate a working knowledge of computer usage applicable to problem solving in technology areas.
12. Demonstrate competency in the analysis, interpretation, and application of data in the technology areas.
13. Apply management concepts in an integrated manner in the global environment.

Degree Requirements

120 credits

The Excelsior College
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 information literacy)

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

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

Written English Requirement

At least 6 credits must come from a course that satisfies the written English requirement (see page 80). **[ENGx111 English Composition, ENG 101 English Composition, ENG 201 Writing for the Professions]**

Humanities

You must successfully complete at least 9 credits in the humanities, including ethics **[BUS 323 Business Ethics, BUSx310 Ethics: Theory and Practice]**. *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.

Social Sciences/History

You must successfully complete a minimum of 6 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.

Natural Sciences/Mathematics

You must successfully complete a minimum of 6 credits in mathematics to include a 3-credit course in either College Algebra [MAT 116 Precalculus Algebra] or Statistics [BUS 233 Business Statistics]. 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/mathematics subjects include, but are not limited to*, anatomy and physiology, microbiology, chemistry, biology, genetics, zoology, physics, precalculus, calculus, astronomy, geology, and oceanography, etc.

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

II. 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 three areas of focus—electrical technology, information technology, and nuclear technology. A minimum of 15 credits is required in the area of focus.

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 College courses and examinations 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 3-credit course required in each professional core area below.

General Management [BUS 341 Management of Concepts and Applications]

Leadership [BUS 452 Business Leadership]

Accounting [ACC 211 Financial Accounting, ACC 212 Managerial Accounting]

Computer Applications [BUS 221 Business Communication and Information Systems]

Project Management [IT 390 Project Management]

Technology Management Core Requirements

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

Technology and Society
[TECH 230 Technology and Society]

Engineering Economics
[TECH 330 Economic Analysis for Technologists]

Introduction to Energy Utilization
[TECH 340 Intro to Energy Utilization]

Integrated Technology Assessment (capstone)
[TECH 490 Integrated Technology Management Assessment (capstone) – the capstone course is required and must be taken through Excelsior College and cannot be transferred in.]

Areas of Focus

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

Area of Focus Concentration Outcomes

Electrical Technology

Upon successful completion of the Excelsior College Bachelor of Professional Studies in Technology Management with an Area of Focus in Electrical Technology, the graduate 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.

Information Technology

Upon successful completion of the Excelsior College Bachelor of Professional Studies in Technology Management with an Area of Focus in Information Technology, the graduate 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.

Nuclear Technology

Upon successful completion of the Excelsior College Bachelor of Professional Studies in Technology Management with an Area of Focus in Nuclear Technology, the graduate 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.

Renewable Energy Technology

Upon successful completion of the Excelsior College Bachelor of Professional Studies in Technology Management with an Area of Focus in Renewable Energy Technologies, the graduate 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.

Renewable Energy Technology Requirements

NUC 255 AC/DC Theory

TECH 233 Electrical Power Distribution

TECH 255 Applied Instrumentation and Control

TECH 250 Renewable Energy Overview I

TECH 251 Renewable Energy Overview II

Professional Component Electives

Any technology-related credits outside the core are applied as professional component electives. Students must select an area of focus in one of three areas: electrical technology, information technology, and nuclear technology. A minimum of 15 credits must be earned in the area of focus.

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

III. 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. 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 81 or visit our website for more information about this requirement. The information literacy requirement is applied to the additional credit component.

Bachelor of Science in Technology

The Bachelor of Science in Technology degree program is designed to provide thorough preparation for a first professional degree for technology occupations in industry, government, and the military. It is intended to advance job skills by ensuring a breadth of exposure to technology concepts as well as development of a depth of understanding and skill in one of the chosen areas of focus.

This degree program allows you to earn a technology degree with an area of focus from one of six technical areas. An area of focus is 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 areas of focus are:

- Computer Technologies
- Electromechanical Technologies
- Electronic/Instrumentation Technologies
- Mechanical/Welding Technologies
- Nuclear Technologies
- Power Plant Technologies

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www.excelsior.edu/MyExcelsior, click on the Resources tab

Excelsior College Community Resources:

www.excelsior.edu/MyExcelsior, click on Communities tab

Program Outcomes

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

1. Demonstrate the ability to understand and use quantitative expressions in the natural sciences.
2. Demonstrate the application of algebra and higher mathematics to problem solving in technology areas.
3. Demonstrate proficiency in oral and written communications.
4. Demonstrate an ability to understand professional, ethical, and social responsibilities, including the impacts of culture, diversity, and interpersonal relations.
5. Demonstrate computer usage in the area of focus, including technical problem solving in the global environment.
6. Demonstrate the ability to identify, analyze, and solve problems in the area of focus.

Areas of Focus Outcomes

The Bachelor of Science in Technology program allows you to earn a technology degree with an area of focus from one of six technical areas.

Computer Technologies

Upon successful completion of the Excelsior College Bachelor of Science in Technology with a Computer Technologies Area of Focus, the graduate will be able to:

1. Identify, formulate, and solve computer technology problems, including the specification, operation, and troubleshooting of computer systems.
2. Demonstrate an ability to design, fabricate, and test systems containing computer hardware and software components.

Electromechanical Technologies

Upon successful completion of the Excelsior College Bachelor of Science in Technology with a Electromechanical Technologies Area of Focus, the graduate will be able to:

1. Use electrical/electronic devices, computers, and instrumentation for applied design, operation, analysis, and troubleshooting of electromechanical systems.
2. Use applied mechanics, strength of materials, engineering materials and standards, and fluid mechanics for applied design, analysis, operation, and troubleshooting of electromechanical systems.

Electronic/Instrumentation Technologies

Upon successful completion of the Excelsior College Bachelor of Science in Technology with an Electronic/Instrumentation Technologies Area of Focus, the graduate will be able to:

1. Apply the concepts of electrical circuits, electronics, digital systems, and instrumentation to the design and implementation of analog and digital communication systems.

CHART 5

Bachelor of Science in Technology

Total Degree Credits Required: 120

BS

Baccalaureate
Degree Programs

Arts and Sciences Component

Credit
Hours

Communications (must include
6-credit Written English Requirement)

9

Humanities Elective

3

Ethics

3

Social Sciences/History

9

Natural Sciences

9

Mathematics
(at the level of College Algebra and above)

12

Arts and Sciences Electives

15

Total Arts and Sciences Component

60

Technology Component

Area of Focus

24 credits must be earned in one of the areas of focus listed below.

Integrated Technology Assessment Capstone [TECH 495 Integrated Technology Assessment (capstone) — the capstone course is required and must be taken through Excelsior College. It cannot be transferred in.]

See pages 95–98 for sample area of focus and technical elective subjects for each focus area.

Computer Technologies
Electromechanical Technologies
Electronic/Instrumentation Technologies
Mechanical/Welding Technologies
Nuclear Technologies
Power Plant Technologies

Technical Electives (must include one course in computer language or programming)

24

Free Elective Component

Credit
Hours

Free Elective Component

(must include 1-credit Information
Literacy Requirement)

12

Total Technology Component

15 credits must be upper level,
including 9 in the area of focus

48

2. Apply concepts of automatic control, microprocessors, digital circuits, and data communications for the automation of processes.

Mechanical/Welding Technologies

Upon successful completion of the Excelsior College Bachelor of Science in Technology with a Mechanical/Welding Area of Focus, the graduate will be able to:

1. Perform analysis, mechanical design, and development of mechanical systems.
2. Identify and use appropriate materials and methods for manufacturing machine parts.

Nuclear Technologies

Upon successful completion of the Excelsior College Bachelor of Science in Technology with a Nuclear Technologies Area of Focus, the graduate will be able to:

1. Apply the concepts of reactor chemistry, reactor systems, nuclear materials, and instrumentation to the operation and design of nuclear systems and processes.
2. Apply the concepts of radiation protection, radiological science, radiation measurement and shielding, and instrumentation for the design, operation and maintenance of radiological safety systems.

Power Plant Technologies

Upon successful completion of the Excelsior College Bachelor of Science in Technology with a Power Plant Technologies Area of Focus, the graduate will be able to:

1. Describe the theories in power plant operations, boiler, turbine, and generator operations, and power plant instrumentation.
2. Identify and use appropriate methods for installation, maintenance, testing, and troubleshooting of power plant mechanical and electrical equipment.

Degree Requirements

120 credits

The Bachelor of Science in Technology requires a minimum of 120 credits

distributed as follows:

- 60 credits minimum required in the arts and sciences component
- 48 credits minimum required in the technology component
- 12 credits required in the free elective component (to include information literacy)

I. Arts and Sciences Component (60 credits)

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

A. Humanities and Social Science/History:

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

1. **Communications:** At least 9 credits must be earned in communications, including 6 credits to satisfy the written English requirement [ENGx111 English Composition, ENG 101 English Composition, ENG 201 Writing for the Professions] (see page 80). Courses in speech, technical writing, or a similar course either in written or oral communications are applicable toward the communications requirement.
2. **Humanities:** At least 6 credits must be earned in humanities, including a course in ethics [BUS 323 Business Ethics]. *Humanities subjects include, but are not limited to,* advanced writing, literature, foreign languages, religion, philosophy, art, and music.
3. **Social Sciences/history:** At least 9 credits must be earned in social sciences/history. *Social sciences/history subjects include, but are not limited to,* political science, anthropology, economics, geography, history, psychology, and sociology.

- B. Natural Sciences:** At least 9 credits must be earned in natural sciences. Some sample natural science courses are biology, chemistry, astronomy, oceanography, and geology.
- C. Mathematics:** At least 12 credits must be earned in mathematics at the level of College Algebra and above [MAT 116 Precalculus Algebra, MAT 118 Trigonometry, TECH 201-202 Foundations of Technology Problem Solving I-II].
- D. Arts and Sciences Electives:** The remaining 15 credits needed to satisfy the 60-credit requirement may be earned in any area of the arts and sciences.

II. Technology Component (48 credits)

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

- A. Area of Focus:** At least 24 credits, including 9 upper-level credits, must be earned in a chosen area of focus. See pages 95–98 for a list of sample focus area subjects. (The Integrated Technology Assessment is part of the area of focus.)

Integrated Technology Assessment Capstone [TECH 495 Integrated Technology Management Assessment (capstone) – the capstone course is required and must be taken through Excelsior College and cannot be transferred in.]
- B. Technical Electives:** A maximum of 24 credits in technical electives may be applied toward the Bachelor of Science in Technology. This includes 3 credits in computer applications [TECH 220 Workplace Communication with Computers]. See pages 95–98 for a list of sample technical electives for each concentration.

Note: Refer to pages 95–98 to review sample area of focus subjects and technical elective subjects.

- C. Level Requirement:** Of the 48 credits required for the technology component, at least 15 credits must be upper level (9 upper-level credits in the area of focus and 6 upper-level credits in technical electives). A course is generally con-

sidered 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.

III. Free Elective Component (12 credits)

The Bachelor of Science in Technology allows room for up to 12 credits in free electives. Applied to this component is the one credit for Excelsior College's information literacy requirement [INL 102 Information Literacy]. See page 81 or visit our website for more information about information literacy.

Degree-Specific Policy

Time Limit on Coursework

Because of the rapidly changing nature of technology, Excelsior College has established a time-related restriction on the application of credit from previous computer- and electronics-related coursework. To meet this requirement, relevant coursework must have been completed more recently than 10 years prior to enrollment in Excelsior College, with the exception of Circuit Theory I and Circuit Theory II. The time limit may be appealed with verification of appropriate and current professional and/or academic experience.

Bachelor of Science in Electrical Engineering Technology

An individual who has a Bachelor of Science in Electrical Engineering Technology is typically employed as an electrical technologist. The duties of a technologist are broad and varied, encompassing technical aspects as well as the application of engineering principles. Typical occupational areas where electrical technologists are employed include product design and development, manufacturing, field engineering, systems supervision, and quality assurance.

CHART 6

Bachelor of Science in Electrical Engineering Technology

Total Degree Credits Required: 124

BS

Arts and Sciences Component

Credit Hours

Communications (must include 6 credits in the written English requirement)

9

Ethics

3

Social Sciences/History

9

Humanities Elective

3

Mathematics and Natural Sciences

■ Mathematics
(12 credits at the level of College Algebra and above including Calculus I and II and Differential Equations)

24

■ Natural Sciences
(Physics I and II with at least one physics lab)

Arts and Sciences Electives

12

Total Arts and Sciences Component

60

Free Elective Component

Credit Hours

Free Elective Component

(must include 1-credit Information Literacy Requirement)

7

Electrical Engineering Technology Component

Credit Hours

Core Requirements

DC Circuits
AC Circuits
Electronics I
Electronics II
Digital Electronics
Microprocessors
Computer Programming
Project Management
ELEC 495 Integrated Technology Assessment (capstone)*

Concentration Requirements

One of the following concentrations must be declared (see page 113 for concentration requirements):

Electronics
Nanotechnology
Power Systems

Electrical Technology Electives

Total Technology Component

16 credits must be upper level, including 9 in the concentration

57

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 area.

At least two of the labs must be physical (non-virtual).

* ELEC 495 Integrated Technology Assessment is the required capstone course and must be taken through Excelsior College. It cannot be transferred in.

The Bachelor of Science in Electrical Engineering Technology is accredited by the Engineering Technology Accreditation Commission of ABET, <http://www.abet.org>, telephone: 410-347-7700. ABET is a specialized accrediting agency recognized by the Council for Higher Education Accreditation (CHEA).

Program Educational Objectives

As an Excelsior College 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 a professional/industrial environment.
5. Perform ethically and professionally in business, industry, and society.
6. Attain increasing levels of responsibility and leadership in the electrical field.

Program (Student) Outcomes

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

1. Select and apply appropriate knowledge, techniques, skills, and modern tools of mathematics, engineering technology, and natural sciences, including physics, to solve problems in the electrical engineering technology area.
2. Demonstrate the ability to test, measure, and provide quantitative expressions of natural science phenomena, including experimentation, observation, and accurate measurement.
3. Apply the fundamentals of algebra, trigonometry, and calculus to problem solving in electrical engineering technology areas.

4. Make oral technical presentations in Standard English using graphics and language appropriate to the audience.
5. Demonstrate proficiency in the written and graphical communication of technical information supported by appropriate technical references using Standard English.
6. Demonstrate a working knowledge of computer usage, including knowledge of one or more computer languages or documentation of the use of one or more computer software packages for technical problem solving appropriate to the electrical engineering technology discipline.
7. Demonstrate technical competency in the core electrical engineering technologies including electronics, circuit analysis, and digital systems, and in the student's chosen concentration such as electronics, power systems, or nanotechnology.
8. Integrate knowledge of the functional areas of electrical engineering technology from a variety of resources.
9. Demonstrate the ability to analyze, apply design concepts, and implement systems as appropriate to electrical engineering technology and consider their societal and global impact.
10. Participate effectively in groups, as a member or leader, and apply project management techniques as appropriate to complete assignments.
11. Demonstrate understanding and commitment to professional, ethical, and social responsibilities, including the effects of culture, diversity, and interpersonal relations.
12. Demonstrate a commitment and ability to continue to engage in self-directed continuing professional development.
13. Demonstrate a commitment to quality, timeliness, and continuous improvement.

Degree Requirements

124 credits

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 information literacy)

I. 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 [**ENGx111 English Composition**, **ENG 101 English Composition**, **ENG 201 Writing for the Professions**]. 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 [**BUS 323 Business Ethics**].
3. **Social Sciences/History:** At least 9 credits must be earned in subjects such as sociology, economics, history, psychology, and anthropology.
4. **Humanities Electives:** At least 3 credits must be earned in a humanities elective.

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, [**TECH 201 Foundations of Technology Problem Solving I**], Calculus II, [**TECH 202 Foundations of Technology Problem Solving 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 and II (with at least one physics lab) [**PHYS 201 Physics I**, **PHYS 203 Physics II**, **PHYS 202 Physics I Laboratory**, **PHYS 204 Physics II Laboratory**].

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.

II. 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.

A. 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 (*The computer programming core requirement may be satisfied with credits from coursework in any of the languages listed for the information technology degree, except COBOL.*)
[IT 210 Object Oriented Programming]

- Project Management
[IT 390 Project Management]

- Integrated Technology Assessment (capstone)

Note: ELEC 495 Integrated Technology Assessment, the capstone course, is required and must be taken through Excelsior College. 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.

- B. Concentration Requirements:** One of the following concentrations must be declared:

- Electronics
- Nanotechnology
- Power Systems

Electronics Concentration

Concentration Outcomes

Upon successful completion of the Excelsior College Bachelor of Science in Electrical Engineering Technology with an Electronics Concentration, the graduate 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 350 Business Data Communications]
- Control Systems
[ELEC 321 Control Systems]
- Microprocessors II
[ELEC 307 Microcontrollers]

Nanotechnology Concentration

Concentration Outcomes

Upon successful completion of the Excelsior College Bachelor of Science in Electrical Engineering Technology with a Nanotechnology Concentration, the graduate will be able to:

1. Identify, analyze, and discuss the processes and equipment used in nanotechnology fabrication.
2. Identify and discuss nanotechnology applications and their societal and ethical implications.
3. Analyze the relationship between the material scale (nanostructure) and the properties/functionality of materials.

Requirements

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

Concentration requirements:

- Introduction to Nanotechnology
[ELEC 305 Introduction to Nanotechnology]
- Basic Nanofabrication Process [ELEC 310 Basic Nanofabrication Process]
- Nanotechnology Process Equipment
[ELEC 410 Nanotechnology Process Equipment]

- Introduction to Nanofabrication Manufacturing Technology [ELEC 415 Introduction to Nanofabrication Manufacturing Technology]
- Micro-electro-mechanical Systems (MEMS) [ELEC 420 Micro-Electro Mechanical Systems*]

Power Systems Concentration

Concentration Outcomes

Upon successful completion of the Excelsior College Bachelor of Science in Electrical Engineering Technology with a Power Systems Concentration, the graduate 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]*

C. Electrical Engineering Technology Electives:

Any remaining credits in the electrical engineering technology component may be satisfied by approved electrical technology electives. Please check with your advisor for approval prior to registering for electrical engineering technology electives.

D. 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.

At least two of the seven electrical labs must be physical (non-virtual) laboratory experiences, or the student must be able to otherwise demonstrate competence in the use of analytical and measurement equipment common to the electrical discipline and in accordance with the Electrical Engineering Technology program goals.

Additionally, 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.

E. 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

Your Personalized MyExcelsior Account:
www.excelsior.edu/MyExcelsior

Admissions:
toll free 888-647-2388, ext. 27

Technology Programs Advising Team:
toll free 888-647-2388, ext. 1341

Information Literacy Requirement FAQ:
www.excelsior.edu/infoLitFAQ

Excelsior College Learning Resources:
www.excelsior.edu/library
www.excelsior.edu/bookstore
www.excelsior.edu/MyExcelsior, click on the Resources tab

Excelsior College Community Resources:
www.excelsior.edu/MyExcelsior, click on Communities tab

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.

III. 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 one credit for Excelsior College's information literacy requirement [INL 102 Information Literacy]. See page 81 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 two 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. Refer to your *Student Policy Handbook* for academic and administrative policies that apply to all students and programs.

Course Materials Policy

The faculty requires that students submit course materials for all math, science, and technology component courses taken outside of Excelsior College. 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 Status Report.

Time Limit on Coursework

Because of the rapidly changing nature of technology, Excelsior College has established a time-related restriction on the application of credit from previous computer- and electrical/electronics-related coursework. To meet this requirement, relevant coursework must have been completed more recently than 10 years prior to enrollment in Excelsior College (except AC Circuits and DC 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.

Bachelor of Science in Information Technology

The Bachelor of Science in Information Technology program is designed to enhance job skills and improve opportunities for career advancement in the information technology field.

Typical occupational areas associated with information technology include database management systems, software management, data communications, information security, and network management.

Flexibility in program design is possible by virtue of your choice of IT electives.

Program Educational Objectives

As an Excelsior College 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. Attain increasing levels of responsibility and leadership in the information technology field.

Program Student Outcomes

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

1. Apply knowledge of computing and mathematics for problem solving in the field of information technology.
2. Demonstrate the ability to identify and analyze user needs to define and create appropriate computing requirements and solutions.
3. Demonstrate the ability to effectively select, evaluate, and integrate information technologies based solutions in a user environment.
4. Demonstrate the ability to participate effectively in groups or team projects.
5. Demonstrate an ability to understand professional, ethical, and social responsibilities, including the impacts of culture, diversity, and interpersonal relations.
6. Demonstrate proficiency in communicating technical information in formal written reports, documentation, and oral presentations to users and information technology professionals.
7. Demonstrate the ability to identify and analyze the impacts of information technologies and computing on public, organizations, and individuals.
8. Demonstrate the ability to identify and apply current and emerging technologies and tools for information technologies solutions.
9. Demonstrate expertise in the core information technologies, including database management, information management and security, object-oriented programming, computer architecture, systems architecture, operating systems, and networking.
10. Demonstrate the ability to analyze computing and information security requirements and risks, and apply the appropriate tools and techniques to protect organizational data assets in an ethically responsible manner.
11. Demonstrate the ability to apply best practices and standards for information technology applications.
12. Demonstrate the ability to assist in the creation and execution of an effective project plan.
13. Demonstrate a commitment to professional development and to continue to engage in life-long learning.

Degree Requirements

120 credits

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 information literacy)

I. 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:

CHART 7

Bachelor of Science in Information Technology

Total Degree Credits Required: 120

BS

Arts and Sciences Component

Credit Hours

Communications (must include 6 credit Written English Requirement)

9

Ethics

3

Humanities Elective

3

Social Sciences/History

9

Natural Sciences/Mathematics (must include 3 credits in a natural science, Discrete Math, and one course from the following: Calculus I, Statistics and Probability, Quantitative Methods, Finite Math, or Mathematical Logic)

12

Arts and Sciences Electives

24

Total Arts and Sciences Component

60

Free Elective Component

Credit Hours

Free Elective Component

(must include 1-credit Information Literacy Requirement)

12

Information Technology Component

Core Requirements**

Object-Oriented Programming**

Computer Systems Architecture**

Operating Systems**

Data Communications and Networking

Database Concepts

Software Systems Analysis and Design

Overview of Computer Security

Project Management

IT 495 Integrated Technology Assessment (capstone)*

Concentration Requirements

One of the following concentrations must be declared (see page 118 for concentration requirements):

Cybersecurity Technology

General Option

Information Security

Network Management

Total Technology Component

15 credits must be upper level

48

*IT 495 Integrated Technology Assessment is the required capstone course and must be taken through Excelsior College. It cannot be transferred in.

** The core requirements should be completed in the order listed

Baccalaureate Degree Programs

Baccalaureate Degree Programs in Technology

- 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 [ENGx111 English Composition, ENG 101 English Composition, ENG 201 Writing for the Professions]. 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 [BUS 323 Business Ethics].
 - 3. Social Sciences/History:** At least 9 credits must be earned in such subjects as sociology, economics, history, psychology, and anthropology.
 - 4. 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.
- B. Natural Sciences/Mathematics:** At least 12 credits must be earned in natural sciences/mathematics and include 3 credits in a natural science, a course in discrete mathematics [TECH 205 Discrete Structures], and one course from the following list:
- 1. Calculus I** [TECH 201 Foundations of Technology Problem Solving I]
 - 2. Statistics and Probability** [BUS 233 Business Statistics, MAT 201 Statistics]
 - 3. Quantitative Methods** [BUS 430 Quantitative Methods]
 - 4. Finite Math**
 - 5. Mathematical Logic**
- Sample natural sciences subjects include biology, chemistry, geology, physics, and genetics.
- C. Arts and Sciences Electives:** At least 24 additional credits in any arts and sciences areas must be completed.

II. 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:

- A. Core Requirements:** The following core requirements must be met:
- Object-Oriented Programming [IT 210 Object Oriented Programming]
 - Computer Architecture [IT 321 Computer Systems Architecture]
 - Operating Systems [IT 360 Operating Systems]
 - Database Concepts [IT 370 Database Management Systems]
 - Data Communications and Networking [IT 350 Business Data Communications]
 - Overview of Computer Security [IT 380 Overview of Computer Security]
 - Project Management [IT 390 Project Management]
 - Software Systems Analysis and Design [IT 418 Software Systems Analysis and Design]
 - Integrated Technology Assessment Capstone [IT 495 Integrated Technology Assessment (capstone) – The capstone course is required and must be taken through Excelsior College. It cannot be transferred in.]
- B. Concentration Requirements:** 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
 - Information Security
 - Network Management

Cybersecurity Concentration

Concentration Outcomes

1. Apply cybersecurity best practices in managing various computing environments composed 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 cyber-crime incidents on international security and terrorism.

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 Security and Continuity]
- Securing Mobile and Cloud Computing Environments [CYS 456 Securing Mobile and Cloud Computing Environments]
- Large-Scale Cybercrime and Terrorism
[CYS 475 Large-Scale Cybercrime and Terrorism]

General Option

Concentration Requirements

- Approved IT Electives

Information Security Concentration

Concentration Outcomes

Upon successful completion of the Excelsior College Bachelor of Science in Information Technology with an Information Security Concentration, the graduate will be able to:

1. Apply security principles toward the design and management of secure networks and Web applications.
2. Perform computer forensic analysis on network-based and stored information.
3. Integrate information assurance principles into the management of networks and Web applications.

Concentration Requirements

(Minimum of 15 credits)

- Network Security
[IT 402 Network Security]
- Web Security
[IT 404 Web Security]
- Computer Forensics
[IT 406 Computer Forensics]
- Information Assurance Management
[IT 408 Information Assurance Management]
- Fundamentals of Cryptography
[IT 410 Fundamentals of Cryptography]

Network Management Concentration

Concentration Outcomes

Upon successful completion of the Excelsior College Bachelor of Science in Information Technology with a Network Management Concentration, the graduate 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]

- C. 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 con-

sidered 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.

III. 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 one credit for Excelsior College's information literacy requirement [INL 102 Information Literacy]. See page 81 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. Refer to your *Student Policy Handbook* for academic and administrative policies that apply to all students and programs.

Programming Language Cap

The College has placed a 9-credit cap on introductory programming language courses in the information technology component, which includes the following languages.

JAVA	C
PYTHON	C++
Visual Basic	C#

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

Credit for Vendor Examinations

Excelsior College awards credit for certain examinations from vendors such as Microsoft, CompTIA, Novell, Cisco, Sun, ORACLE, SAS, and ICCP. You may apply up to 9 credits from vendor certification examinations toward the IT component of your degree; additional credits from such examinations may apply toward the free elective component. Please contact a technology advisor about the possibility of receiving college-level credit toward your degree requirements.

Time Limit on Coursework

Because of the rapidly changing nature of technology, Excelsior College has established a time-related restriction on the application of credit from previous computer- and electronics-related coursework. To meet this requirement, relevant coursework must have been completed more recently than 10 years prior to enrollment in Excelsior College. This may not be appealed. The Bachelor of Science in Technology with a Computer Technologies specialty has a time limit that may be appealed.

Course Materials Policy

The faculty requires that students submit course materials for all math and technology component courses taken outside of Excelsior College. 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 Status Report.

Bachelor of Science in Information Technology to Master of Business Administration

Dual Degree Track

The dual degree track requires a total of **148** credits. Students achieve graduate status by completing **60** credits in the arts and sciences component, **48** credits in the information technology component, **7** credits in the additional credit component, and the **6**-credit Bridge Component. The **27**-credit graduate course component completes the master's degree requirements. Students receive the baccalaureate and graduate degrees after completion of the dual degree program in its entirety.



Important Note: You are subject to the degree requirements in effect at the time of your enrollment or program/degree transfer (program transfer refers to changes from one school to another; degree transfer refers to changing degrees within the same school).

The faculty reserves the right to make changes in curricular requirements as necessary to reflect current professional practice. Changes may affect both enrolled and prospective students. It is your responsibility to keep informed of such changes. We make every effort to inform you of changes as they occur. Current information about degree requirements is posted on our website. Information about changes to degree requirements is also made available on our website.

Program Educational Objectives

As an Excelsior College 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. Attain increasing levels of responsibility and leadership in the information technology field.

Program Outcomes

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

1. Apply knowledge of computing and mathematics for problem solving in the field of information technology.

2. Demonstrate the ability to identify and analyze user needs to define and create appropriate computing requirements and solutions.
3. Demonstrate the ability to effectively select, evaluate, and integrate information technologies-based solutions in a user environment.
4. Demonstrate the ability to participate effectively in groups or team projects.
5. Demonstrate an ability to understand professional, ethical, and social responsibilities, including the impacts of culture, diversity, and interpersonal relations.
6. Demonstrate proficiency in communicating technical information in formal written reports, documentation, and oral presentations to users and information technology professionals.
7. Demonstrate the ability to identify and analyze the impacts of information technologies and computing on the public, organizations, and individuals.
8. Demonstrate the ability to identify and apply current and emerging technologies and tools for information technologies solutions.
9. Demonstrate expertise in the core information technologies, including database management, information management and security, object-oriented programming, computer architecture, systems architecture, operating systems, and networking.
10. Demonstrate the ability to analyze computing and information security requirements and risks, and apply the appropriate tools and techniques to protect organizational data assets in an ethically responsible manner.
11. Demonstrate the ability to apply best practices and standards for information technology applications.
12. Demonstrate the ability to assist in the creation and execution of an effective project plan.
13. Demonstrate a commitment to professional development and to continue to engage in lifelong learning.

Upon successful completion of the Excelsior College MBA program, the graduate will be able to:

1. Analyze real-world business problems and generate recommendations for action.
2. Integrate accounting, marketing, finance, management, and economics into a strategic business analysis.
3. Assess the impact of the global business environment on business situations.
4. Apply quantitative methods to analysis of business situations.
5. Perform ethically and professionally in business and society.
6. Communicate effectively to relevant audiences in written materials.
7. Collaborate in teams to produce required deliverables.
8. Apply project management skills to business situations.
9. Assess the ethical implications of actions for diverse stakeholders.

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www.excelsior.edu/MyExcelsior, click on the Resources tab

Excelsior College Community Resources:

www.excelsior.edu/MyExcelsior, click on Communities tab

Dual Degree Track Requirements

Arts and Sciences Component

60 credits

1. Humanities and Social Sciences:

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

- a. Communications: At least 9 credits must be earned in communications courses, including 6 credits to satisfy the written English requirement [ENGx111 English Composition, ENG 101 English Composition, ENG 102 Composition II, ENG 201 Writing for the Professions]. Courses in speech, technical writing, or similar courses in either written or oral communications are applicable toward the communications requirements.
- b. Ethics: At least 3 credits must be earned in ethics* [BUS 323 Business Ethics]
- c. Social Sciences/History: At least 9 credits must be earned, including Organizational Behavior* [BUS 311 Organizational Behavior] and additional subjects such as sociology, economics, history, psychology, and anthropology.
- d. 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.

2. Natural Sciences/Mathematics:

At least 12 credits must be earned in natural sciences/mathematics and include 3 credits in a natural science, a course in discrete mathematics [TECH 205 Discrete Structures], and one course from the following list:

- a. Calculus I [TECH 201 Foundations of Technology Problem Solving I]

- b. Statistics and Probability [BUS 233 Business Statistics, MAT 201 Statistics]
- c. Quantitative Methods* [BUS 430 Quantitative Methods]**
- d. Finite Math
- e. Mathematical Logic

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

3. 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:

1. IT Core Requirements:

The following core requirements must be met:

- a. Object-Oriented Programming [IT 210 Object Oriented Programming]
- b. Computer Systems Architecture [IT 321 Computer Systems Architecture]
- c. Operating Systems [IT 360 Operating Systems]

* Must be taken at the upper level with a grade of B or above within the last 10 years to satisfy MBA foundation requirement.

** Please note: **Quantitative Methods** may be taken to waive the MBA foundation requirement as part of this dual degree; however, Statistics is a prerequisite for Quantitative Methods. Please consult your advisor with any concerns about completing Quantitative Methods in the undergraduate portion of this program.

- d. Database Concepts [IT 370 Database Management Systems]
- e. Data Communications and Networking [IT 350 Business Data Communications]
- f. Overview of Computer Security [IT 380 Overview of Computer Security]
- g. Project Management [IT 390 Project Management]
- h. Software Systems Analysis and Design [IT 418 Software Systems Analysis and Design]
- i. Integrated Technology Assessment Capstone [IT 495 Integrated Technology Assessment (capstone)—The capstone course is required and must be taken through Excelsior College. It cannot be transferred in.]

2. Concentration Requirements:

A concentration must be declared. A minimum of 15 credits is required for each concentration (see concentration requirements on page 118).

Free Elective Component

7 credits

1. Information Literacy

A minimum of 1 credit must be earned in information literacy. See the information literacy requirement explanation on page 4 for more information.

2. Other College-Level Credit

- a. Principles of Finance [BUS 350 Principles of Finance]*
- b. Marketing Concepts & Applications [BUS 351 Marketing Concepts & Applications]*

Bridge Component

6 credits

A grade of B or above is required:

1. Business Communications [BUS 501 Business Communications]
2. Global Business Environment [BUS 502 Global Business Environment]

Graduate Component

27 credits

1. Accounting for Managers [BUS 500 Accounting for Managers]
2. Human Resource Management [BUS 504 Human Resource Management]
3. Operations Management [BUS 520 Operations Management]
4. Information Technology [BUS 570 Information Technology]
5. Leadership or Change Management [BUS 552 Leadership or BUS 554 Change Management]
6. Strategy and Policy (capstone) [BUS 511 Strategy and Policy] (capstone)
7. 9 credits in Business Electives or Concentration (see concentration requirements on page 118–119).

* Must be taken at the upper level with a grade of B or above within the last 10 years to satisfy MBA foundation requirement.

CHART 8

Upon completion of this degree plan, students can complete the Excelsior College MBA degree with the completion of **27** MBA credits. The courses in Ethics, Organizational Behavior, Quantitative Analysis, Marketing and Finance will waive foundation-level requirements in the MBA, and you are able to use 6 graduate credits toward the BSIT requirements (**BUS 501** and **BUS 502**).

Bachelor of Science in Information Technology Curriculum to Master of Business Administration — Dual Degree Track

Total Degree Credits Required: 148

BS to MBA

Baccalaureate Component

Arts and Sciences Component

Communications (must include 6 credits in
Written English Requirement)

Ethics

BUS 323 Business Ethics*

Social Sciences/History

BUS 311 Organizational Behavior*

Humanities Elective

Natural Sciences/Mathematics

(must include 3 credits in a natural science, Discrete Math,
and one course from the following: Calculus I, Statistics
and Probability, **BUS 430** Quantitative Methods* (prereq-
uisite is statistics and probability), Finite Math **or**
Mathematical Logic)

Arts and Sciences Electives

9

3

9

3

12

24

Total Arts and Sciences Credit

60

Free Elective Component

Must include 1-credit **Information Literacy** requirement

BUS 350 Principles of Finance*

BUS 351 Marketing Concepts and Applications*

1

6

Total Additional Credit

7

Information Technology Component

Core Requirements

Object-Oriented Programming

Computer Systems Architecture

Operating Systems

Data Communications & Networking

Database Concepts

Software Systems Analysis & Design

Overview of Computer Security

Project Management

IT 495 Integrated Technology Assessment (capstone)**

Concentration Requirements

One of the following concentrations must be declared:

Cybersecurity Technology

General Option

Information Security

Network Management

Total Technology Component
15 credits must be upper level

48

* Must be taken at the upper level and completed with a
grade of B or above within the past 10 years.

** **IT 495 Integrated Technology Assessment** is the required
capstone course and must be taken through Excelsior
College and cannot be transferred in.

Bridge Component

Credit Hours

MBA requirements; credits apply toward the BS

BUS 501 Business Communications

BUS 502 Global Business Environment

6

Total Bridge Credit

6

Graduate Status Achieved

Students achieve graduate status upon completion of the bridge
component and all other undergraduate requirements.

Graduate Course Component

Credit Hours

BUS 500 Accounting for Managers

BUS 504 Human Resources Management

BUS 520 Operations Management

BUS 570 Information Technology

BUS 552 Leadership **or**

BUS 554 Change Management

BUS 511 Strategy and Policy (Capstone)

Electives 9 credits in MBA electives or
concentration course credits

27

Total Graduate Credit

27

Baccalaureate
Degree Programs

Baccalaureate Degree Programs in Technology

Bachelor of Science in Information Technology to Master of Science in Cybersecurity

Dual Degree Track

The dual degree track requires a total of **144 – 147** credits. The total amount of credits earned will vary depending on the concentration selected and the selection of graduate courses applied to baccalaureate concentration requirements. Students achieve graduate status by completing **60** credits in the arts and sciences component, **48** credits in the information technology component, **9** credits in the additional credit component, and the **3**-credit Bridge Component. The **27**-credit graduate course component completes the master's degree requirements. Students receive the baccalaureate and graduate degrees after completion of the dual degree program in its entirety.



Important Note: You are subject to the degree requirements in effect at the time of your enrollment or program/degree transfer (program transfer refers to changes from one school to another; degree transfer refers to changing degrees within the same school).

The faculty reserves the right to make changes in curricular requirements as necessary to reflect current professional practice. Changes may affect both enrolled and prospective students. It is your responsibility to keep informed of such changes. We make every effort to inform you of changes as they occur. Current information about degree requirements is posted on our website. Information about changes to degree requirements is also made available on our website.

Program Educational Objectives

As an Excelsior College 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. Attain increasing levels of responsibility and leadership in the information technology field.

Program Outcomes

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

1. Apply knowledge of computing and mathematics for problem solving in the field of information technology.
2. Demonstrate the ability to identify and analyze user needs to define and create appropriate computing requirements and solutions.
3. Demonstrate the ability to effectively select, evaluate, and integrate information technologies-based solutions in a user environment.
4. Demonstrate the ability to participate effectively in groups or team projects.
5. Demonstrate an ability to understand professional, ethical, and social responsibilities, including the impacts of culture, diversity, and interpersonal relations.
6. Demonstrate proficiency in communicating technical information in formal written reports, documentation, and oral presentations to users and information technology professionals.
7. Demonstrate the ability to identify and analyze the impacts of information technologies and computing on the public, organizations, and individuals.
8. Demonstrate the ability to identify and apply current and emerging technologies and tools for information technologies solutions.
9. Demonstrate expertise in the core information technologies, including database management, information management and security, object-oriented programming, computer architecture, systems architecture, operating systems, and networking.
10. Demonstrate the ability to analyze computing and information security requirements and risks, and apply the appropriate tools and techniques to protect organizational data assets in an ethically responsible manner.
11. Demonstrate the ability to apply best practices and standards for information technology applications.

12. Demonstrate the ability to assist in the creation and execution of an effective project plan.
13. Demonstrate a commitment to professional development and to continue to engage in lifelong learning.

Upon successful completion of the Excelsior College Master of Science in Cybersecurity program, the graduate will be able to:

1. Continuously monitor, maintain, and enhance the protection of enterprise-wide information assets through effective industry accepted information management and risk management techniques.
2. Implement an Incident Response team that legally, ethically, and efficiently responds to cyber incidents.
3. Detect, analyze, and respond to cyber attacks on networks and computer systems.
4. Conduct risk and vulnerability assessments of existing and proposed information systems.
5. Develop and implement organizational cybersecurity policies and procedures.
6. Utilize the best sources of information available related to cybersecurity issues, threats, and recovery.

Dual Degree Track Requirements

Arts and Sciences Component

60 credits

1. Humanities and Social Sciences:

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

- a. Communications: At least 9 credits must be earned in communications courses, including 6 credits to satisfy the written English requirement **[ENGx111 English Composition, ENG 101 English Composition, ENG 102 Composition II, ENG 201 Writing**

for the Professions]. Courses in speech, technical writing, or similar courses in either written or oral communications are applicable toward the communications requirements.

- b. **Ethics:** At least 3 credits must be earned in ethics **[BUS 323 Business Ethics].**
- c. **Social Sciences/History:** At least 9 credits must be earned in such subjects as sociology, economics, history, psychology, and anthropology.
- d. **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.

2. Natural Sciences/Mathematics: At least 12 credits must be earned in natural sciences/mathematics and include 3 credits in a natural science, a course in discrete mathematics **[TECH 205 Discrete Structures]**, and one course from the following list:

- a. Calculus I **[TECH 201 Foundations of Technology Problem Solving I]**
- b. Statistics and Probability **[BUS 233 Business Statistics, MAT 201 Statistics]**
- c. Quantitative Methods **[BUS 430 Quantitative Methods]**
- d. Finite Math
- e. Mathematical Logic

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

3. 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:

- 1. IT Core Requirements:** The following core requirements must be met:
 - a. Object-Oriented Programming **[IT 210 Object Oriented Programming]**
 - b. Computer Systems Architecture **[IT 321 Computer Systems Architecture]**
 - c. Operating Systems **[IT 360 Operating Systems]**
 - d. Database Concepts **[IT 370 Database Management Systems]**
 - e. Data Communications and Networking **[IT 350 Business Data Communications]**
 - f. Overview of Computer Security **[IT 380 Overview of Computer Security]**
 - g. Project Management **[IT 390 Project Management]**
 - h. Software Systems Analysis and Design **[IT 418 Software Systems Analysis and Design]**
 - i. Integrated Technology Assessment Capstone **[IT 495 Integrated Technology Assessment (capstone) – The capstone course is required and must be taken through Excelsior College. It cannot be transferred in.]**
- 2. Concentration Requirements:** A concentration must be declared. A minimum of 15 credits is required for each concentration (see concentration requirements on page 118–119).

Free Elective Component

9 credits

1. Information Literacy:

A minimum of 1 credit must be earned information literacy. See the information literacy requirement explanation on page 4 for more information.

2. Other College-Level Credit:

A minimum of 8 (determined by concentration) 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.

Bridge Component

3 credits

1. Advanced Networking [CYS 522 Advanced Networking]

Graduate Component

27 credits

1. Digital Crime Prevention and Investigation
[CYS 585 Digital Crime Prevention and Investigation]
2. Communications Security
[CYS 501 Communications Security]
3. Ethics, Legal, and Compliance Issues in Cybersecurity [CYS 541 Ethics, Legal, and Compliance Issues in Cybersecurity]
4. Information Assurance
[CYS 560 Information Assurance]
5. IT Risk Analysis and Management
[CYS 575 IT Risk Analysis and Management]
6. Cyber Attacks and Defenses
[CYS 526 Cyber Attacks and Defenses]
7. Project Management
[BUS 530 Project Management Principles and Application]
8. Capstone Project in Cybersecurity
[CYS 595 Capstone Project in Cybersecurity is the required capstone course and must be taken through Excelsior College and cannot be transferred in.]

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www.excelsior.edu/MyExcelsior, click on Communities tab

CHART 9

Upon completion of this degree plan, students can complete the Excelsior College MS Cybersecurity degree with the completion of 27 graduate credits.

Bachelor of Science in Information Technology Curriculum to Master of Science in Cybersecurity—Dual Degree Track

Total Degree Credits Required: 144 – 147 **

BS to MS

Baccalaureate Component

Arts and Sciences Component

Communications (must include 6 credits in Written English Requirement)

Ethics

Social Sciences/History

Humanities Elective

Natural Sciences/Mathematics (must include 3 credits in a natural science, Discrete Math, and one course from the following: Calculus I, Statistics and Probability, Finite Math or Mathematical Logic, and Quantitative Methods)

Arts and Sciences Electives

9

3

9

3

12

24

Total Arts and Sciences Credit

60

Free Elective Component

Must include 1-credit Information Literacy requirement

9

Total Additional Credit

9

Credit Hours

Information Technology Component

Core Requirements

Object-Oriented Programming

Computer Systems Architecture

Operating Systems

Data Communications & Networking

Database Concepts

Software Systems Analysis & Design

Overview of Computer Security

Project Management

IT 495 Integrated Technology Assessment (capstone)*

Concentration Requirements

One of the following concentrations must be declared:

Cybersecurity Technology

General Option

Information Security

Network Management

Total Technology Component
15 credits must be upper level

48

* IT 495 Integrated Technology Assessment is the required capstone course and must be taken through Excelsior College and cannot be transferred in.

** Total will vary depending on concentration selected and selection of graduate courses used to apply to BSIT concentration requirement.

Bridge Component

Credit Hours

MCY requirements; credits apply toward the BS

CYS 522 Advanced Networking

3

Total Bridge Credit

3

Graduate Status Achieved

Students achieve graduate status upon completion of the bridge component and all other undergraduate requirements.

Graduate Course Component

Credit Hours

CYS 585 Digital Crime Prevention and Investigation

CYS 501 Communication Security

CYS 541 Ethics, Legal & Compliance Issues in Cybersecurity

CYS 560 Information Assurance

CYS 575 IT Risk Analysis & Management

BUS 530 Project Management Principles & Application

CYS 595 Capstone in Cybersecurity

CYS 526 Cyber Attacks and Defense

27

Total Graduate Credit

27

Bachelor of Science in Nuclear Engineering Technology

The Bachelor of Science in Nuclear Engineering Technology is designed primarily for employees of the nuclear industry and the military. This program emphasizes practical applications of engineering principles as they relate to the nuclear industry. It is intended to equip people to perform competently in occupational areas such as reactor operations, health physics, quality assurance, chemical technology, and instrumentation and control technology as well as in related areas in the nuclear technology field. You can develop an individualized program to meet your needs as a professional within the field.

The bachelor's degree program in nuclear engineering technology is accredited by the Engineering Technology Accreditation Commission of ABET, <http://www.abet.org>, telephone: 410-347-7700. ABET is a specialized accrediting agency recognized by the Council for Higher Education Accreditation (CHEA).

Program Educational Objectives

As an Excelsior College 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.
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 nuclear field.

Program Outcomes

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

1. Select and apply appropriate knowledge, techniques, skills, and modern tools of the natural sciences, including physics, chemistry, thermodynamics, atomic physics, and nuclear physics to solving problems in nuclear engineering technology areas.
2. Demonstrate the ability to understand, measure, and provide quantitative expressions for natural phenomena, including observation, standard tests, experimentation, and accurate measurement.
3. Select and apply appropriate knowledge, techniques, skills and modern tools of algebra, trigonometry, and calculus to solving problems in nuclear engineering technology areas.
4. Make oral technical presentations in Standard English using graphics and language appropriate to the audience.
5. Demonstrate proficiency in the written and graphical communication of technical information supported by appropriate technical references using Standard English.
6. Demonstrate a working knowledge of computer applications or document the use of one or more computer software packages for technical problem solving appropriate to the nuclear engineering technology discipline.
7. Demonstrate technical competency in electrical theory, nuclear and engineering materials, health physics/radiation protection, reactor core fundamentals, power plant systems, heat transfer, fluids, health physics/radiation protection, and radiation measurement.

CHART 10

Bachelor of Science in Nuclear Engineering Technology

Total Degree Credits Required: 124

BS

Arts and Sciences Component

Credit
Hours

Communications (must include 2 courses to satisfy the Written English Requirement)

9

Ethics

3

Social Sciences/History

9

Humanities Elective

3

Mathematics and Natural Sciences

■ Mathematics
(at least 12 credits at the level of College Algebra and above to include Calculus I and II)

26

■ Natural Sciences
(must include Chemistry with lab, Physics I and II with at least one physics lab, Atomic Physics, Nuclear Physics, and Thermodynamics)

Arts and Sciences Electives

10

Total Arts and Sciences Component

60

Free Elective Component

Credit
Hours

Any College-Level Study

May include any excess credit in the arts/sciences, business, or applied professional areas.

15

Information Literacy Requirement

1

Total Additional Credit

16

Nuclear Engineering Technology Component

Credit
Hours

Electrical Theory
Computer Applications
Materials
Nuclear Materials
Health Physics/Radiation Protection
Radiation Measurement Lab
Plant Systems Overview
Reactor Core Fundamentals
Fluids
Heat Transfer
NUC 495 Integrated Technology Assessment (capstone)*

Nuclear Engineering Technology Electives

Total Technology Component

16 credits must be upper level

48

Note: Five labs are required

- chemistry
- physics
- radiation measurement lab
- two technology or natural science labs

***NUC 495** Integrated Technology Assessment is the required capstone course and must be taken through Excelsior College and cannot be transferred in.

8. Demonstrate comprehension of currently applicable rules and regulations in the areas of:
 - radiation protection
 - operations
 - maintenance
 - quality control
 - quality assurance
 - safety
9. Integrate and apply knowledge of the functional areas of nuclear engineering technology to the safe operation and maintenance of nuclear systems.
10. Design systems, components, or processes while demonstrating a commitment to quality, timeliness, and continuous improvement of the design and operation of nuclear systems.
11. Participate effectively in groups as a member or a leader of technical teams.
12. Demonstrate an understanding of and commitment to professional, ethical, and social responsibilities, including the effects of culture, diversity, and interpersonal relations.
13. Demonstrate a commitment and ability to engage in self-directed continuing professional development.

Degree Requirements

124 credits

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 free elective component (to include information literacy)

I. Arts and Sciences Component (60 Credits)

This 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: 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 [**ENGx111 English Composition, ENG 101 English Composition, ENG 201 Writing for the Professions**]. 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 [**BUS 323 Business Ethics**]
3. **Social Sciences/History:** At least 9 credits must be earned in such subjects as sociology, economics, history, psychology, and anthropology.
4. **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.*

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, including Calculus I and II [**TECH 201-202 Foundations of Technology Problem Solving I and II**].

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

- Chemistry (with lab)
[CHE 101L General Chemistry Laboratory I]
Note: CHE 101L satisfies the chemistry lab requirement only.
- Physics I and II (with at least one physics lab) [PHYS 201–203 Physics I and II, PHYS 202–204 Physics Laboratory I and II]
- Atomic Physics
[NUC 240 Atomic and Nuclear Physics]
Note: NUC 240 also satisfies the nuclear physics core requirement.
- Nuclear Physics
[NUC 240 Atomic and Nuclear Physics]
Note: NUC 240 also satisfies the atomic physics core requirement.
- Thermodynamics
[NUC 245 Thermodynamics]

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.

II. Nuclear Engineering Technology Component (48 credits)

A. Core Requirement: 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:

- Electrical Theory
[ELEC 152–153 Circuit Theory I and II]
Note: Both courses must be completed.
OR
[NUC 255 AC/DC Electrical Theory]
- Computer Applications [TECH 220 Workplace Communication with Computers]
- Materials [NUC 320 Materials]
- Nuclear Materials
[NUC 325 Nuclear Materials]

- Health Physics/Radiation Protection [NUC 210 Health Physics and Radiation Protection]
- Radiation Measurement Lab [NUC 211 Radiation Measurement Lab]
- Plant Systems Overview [NUC 350 Plant Systems Overview]
- Reactor Core Fundamentals [NUC 330 Reactor Core Fundamentals]
- Fluids [NUC 250 Introduction to Heat Transfer and Fluid Mechanics]
- Heat Transfer [NUC 250 Introduction to Heat Transfer and Fluid Mechanics]
- Integrated Technology Assessment (capstone) [NUC 495 Integrated Technology Assessment, the capstone course, is required and must be taken through Excelsior College. 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: Your bachelor's degree program must include a minimum of five laboratories. Three of these must be in physics, chemistry, and radiation measurement. The remaining two may be in the natural sciences or in nuclear engineering technology subjects.

D. Level Requirement: Of the 48 credits required for the nuclear engineering technology component, at least 16 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. Upper-level credit is not given for Navy Enlisted Ratings or military service school courses with the exception of those offered by the Navy Nuclear

Power School. The acceptance of courses toward the upper-level requirement is subject to faculty review.

III. Free Elective Component (16 credits)

The nuclear engineering technology degree program is designed to allow room for up to 16 credits from free electives. Applied to this component is the 1 credit for our information literacy requirement [INL 102 Information Literacy]. See page 81 or visit our website for more information about information literacy.

You may earn the remaining 15 credits in any field of college study, including professional or technical subjects and the arts and sciences. You may apply a maximum of 2 credits in physical education activity courses to the degree.

Degree-Specific Policies

Policies and procedures that apply specifically to the Bachelor of Science in Nuclear Engineering Technology follow. Refer to your *Student Policy Handbook* for academic and administrative policies that apply to all students and programs.

Course Materials Policy

The faculty requires that students submit course materials for all math, science, and technology component courses completed outside of Excelsior College. 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 Status Report.

Time Limit on Coursework

Because of the rapidly changing nature of technology, Excelsior College has established a time-related restriction on the application of credit from previous computer- and electronics-related coursework, with the exception of Circuit Theory I and Circuit Theory II. To meet this requirement, relevant coursework must have been completed more recently than 10 years prior to enrollment in Excelsior College. To apply course credit from the nuclear materials area, you must have completed relevant coursework more recently than January 1970.

Credit for the National Registry of Radiation Protection Technologists (NRRPT)*

The American Council on Education (ACE) College Credit Recommendation Service recommends the awarding of a total of 30 college credits for members accepted to the National Registry of Radiation Protection Technologists (NRRPT) from November 1978 to the present. Excelsior College recognizes the credit recommendations of the ACE College Credit Recommendation Service.

The Excelsior College faculty has reviewed the ACE credit recommendation toward the nuclear engineering technology requirement and will award 8 of the 30 credits toward the upper level in health physics/radiation protection. The remaining 22 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**

The Excelsior College 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:

* For more information about this source of credit, contact the School of Business and Technology.

- 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

Students may earn between 24 and 52 credits, depending on the utility training program completed. Contact a technology academic advisor for details.

Bachelor of Science in Nuclear Engineering Technology with a dual degree option for an MBA

This dual degree track program allows students to complete the bachelor's degree component to meet Bachelor of Science in Nuclear Engineering Technology requirements and then move forward to completion of the MBA. The program is framed to increase academic understanding of nuclear engineering technology topics, improve career prospects, and expand individual horizons. Students can capitalize upon their existing work-based knowledge while engaging in a process of reflective learning. This program will equip students to further their

Specialized Accreditation/Recognition:

The Bachelor of Science in Nuclear Engineering Technology degree is accredited by the Engineering Technology Accreditation Commission of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202, 410-347-7700. ABET is a specialized accrediting agency recognized by the Council for Higher Education Accreditation (CHEA).

careers through enhanced knowledge, understanding, and application to the nuclear engineering and business environments.

A 6-credit bridge component consisting of subjects in business communications and global business environment completes the bachelor's degree with the student then achieving graduate status. The student is then eligible to move on to complete the graduate course component consisting of subjects such as accounting for managers, human resources management, operations management, leadership, and change management.

Program Outcomes

We expect the graduate of an Excelsior College baccalaureate program in nuclear engineering technology will be able to:

1. Select and apply appropriate knowledge, techniques, skills and modern tools of the natural sciences, including physics, chemistry, thermodynamics, atomic physics, and nuclear physics to solving problems in nuclear engineering technology areas..
2. Demonstrate the ability to understand, measure, and provide quantitative expressions to solving problems in nuclear engineering technology areas. for natural phenomena, including observation, standard tests, experimentation, and accurate measurement.
3. Select and apply appropriate knowledge, techniques, skills, and modern tools of algebra, trigonometry, and calculus to solving problems in nuclear engineering technology areas.
4. Make technical presentations in Standard English using graphics and language appropriate to the audience.
5. Demonstrate proficiency in the written and graphical communication of technical information supported by appropriate technical references using Standard English.

6. Demonstrate a working knowledge of computer applications or document the use of one or more computer software packages for technical problem solving appropriate to the nuclear engineering technology discipline.
 7. Demonstrate technical competency in electrical theory, nuclear and engineering materials, health physics/radiation protection, reactor core fundamentals, power plant systems, heat transfer, fluids, and radiation measurement.
 8. Demonstrate comprehension of currently applicable rules and regulations in the areas of radiation protection, operations, maintenance, quality control, quality assurance, and safety.
 9. Integrate and apply knowledge of the functional areas of nuclear engineering technology to the safe operation and maintenance of nuclear systems.
 10. Design systems, components or processes while demonstrating a commitment to quality, timeliness, and continuous improvement of the design and operation of nuclear systems.
 11. Participate effectively as a member or leader of technical teams.
 12. Demonstrate an understanding of and commitment to professional, ethical, and social responsibilities, including the effects of culture, diversity, and interpersonal relations.
 13. Demonstrate a commitment and ability to engage in self-directed continuing professional development.
5. Perform ethically and professionally in business and society.
 6. Communicate effectively to relevant audiences in written materials.
 7. Collaborate in teams to produce required deliverables.
 8. Apply Project Management skills to business situations.
 9. Assess the ethical implications of actions for diverse stakeholders.

Upon successful completion of the Excelsior College MBA program, the graduate will be able to:

1. Analyze real-world business problems and generate recommendations for action.
2. Integrate accounting, marketing, finance, management, and economics into a strategic business analysis.
3. Assess the impact of the global business environment on business situations.
4. Apply quantitative methods to analysis of business situations.

CHART 11

Upon completion of this degree plan, students can complete the Excelsior College MBA degree with the completion of 27 MBA credits. The courses in Ethics, Organizational Behavior, Quantitative Analysis, Marketing and Finance will waive foundation-level requirements in the MBA, and you are able to use 6 graduate credits toward the BSNET requirements (**BUS 501** and **BUS 502**).

Bachelor of Science in Nuclear Engineering Technology to Master of Business Administration — Dual Degree Track

Total Degree Credits Required: 151

BSNET to MBA

Baccalaureate Component

Arts and Sciences Component

Credit Hours

Communications (must include 2 courses to satisfy the Written English Requirement)

9

Ethics

BUS 323 Business Ethics*

3

Social Sciences/History

BUS 311 Organizational Behavior*

9

Humanities Elective

3

Mathematics and Natural Sciences

■ Mathematics

(at least 12 credits at the level of College Algebra and above to include Calculus I and II)

26

■ Natural Sciences

(must include Chemistry with lab, Physics I and II with at least one physics lab, Atomic Physics, Nuclear Physics, and Thermodynamics)

Arts and Sciences Electives

BUS 430 Quantitative Methods*

10

Total Arts and Sciences Credit

60

Free Elective Component

Credit Hours

Any College-Level Study

May include any excess credit in the arts/sciences, business, or applied professional areas.

FIN 350 Principles of Finance*

BUS 351 Marketing Concepts and Applications*

9

Information Literacy Requirement

1

Total Additional Credit

10

Nuclear Engineering Technology Component

Electrical Theory

Computer Applications

Materials

Nuclear Materials

Health Physics/Radiation Protection

Radiation Measurement Lab

Plant Systems Overview

Reactor Core Fundamentals

Fluids

Heat Transfer

NUC 495 Integrated Technology Assessment (capstone)*

Nuclear Engineering Technology Electives

Total Technology Component
16 credits must be upper level

48

Note: Five labs are required

- chemistry
- physics
- radiation measurement lab
- two technology or natural science labs

* Must be taken at the upper level and completed with a grade of B or above within the past 10 years.

** **NUC 495** Integrated Technology Assessment is the required capstone course and must be taken through Excelsior College and cannot be transferred in.

Bridge Component

Credit Hours

MBA requirements; credits apply toward the BS

BUS 501: Business Communications

BUS 502: Global Business Environment

6

Total Bridge Credit

6

Graduate Status Achieved

Students achieve graduate status upon completion of the bridge component and all other undergraduate requirements.

Graduate Course Component

Credit Hours

BUS 500 Accounting for Managers

BUS 504 Human Resources Management

BUS 520 Operations Management

BUS 570 Information Technology

BUS 552 Leadership **or**

BUS 554 Change Management

BUS 511 Strategy and Policy (Capstone)

Electives (9 elective or concentration course credits)

27

Total Graduate Credit

27

* Must be taken at the upper level and completed with a grade of B or above within the past 10 years.

** **BUS 495** and **BUS 511** are the required capstone courses and must be taken through Excelsior College and cannot be transferred in.

*** Depending on the concentration, the distribution may vary. Please consult your advising team for details.

Graduate Degree Programs in Technology

Master of Science in Cybersecurity

The Master of Science in Cybersecurity provides professionals with cutting edge knowledge and techniques to protect sensitive/critical information of an organization. The curriculum focuses on aspects of cybersecurity including strategies, policy, ethics and legal compliance, operational process, and technologies that secure and defend an organization's cyber assets. This program is especially suited for professionals who aim to pursue their career goal to work in the critically important area of cybersecurity.

Master of Science in Cybersecurity

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Important Note: You are subject to the degree requirements in effect at the time of your enrollment or program/degree transfer (program transfer refers to change from one school to another; degree transfer refers to changing degrees within the same school).

The faculty reserves the right to make changes in curricular requirements as necessary to reflect current professional practice. Changes may affect both enrolled and prospective students. It is your responsibility to keep informed of such changes. We make every effort to inform you of changes as they occur. Current information about degree requirements is posted on our website. Information about changes to degree requirements is also made available on our website.

Program Outcomes

Upon successful completion of the Excelsior College Master of Science in Cybersecurity program, the graduate will be able to:

1. Continuously monitor, maintain, and enhance the protection of enterprise-wide informa-

tion assets through effective industry accepted information management and risk management techniques.

2. Implement an Incident Response team that legally, ethically, and efficiently responds to cyber incidents.
3. Detect, analyze, and respond to cyber attacks on networks and computer systems.
4. Conduct risk and vulnerability assessments of existing and proposed information systems.
5. Develop and implement organizational cybersecurity policies and procedures.
6. Utilize the best sources of information available related to cyber security issues, threats, and recovery.

Note: Where an Excelsior College® Examination or course will satisfy a requirement, it is shown in [brackets]. Excelsior College Examinations have an "x" after the department, e.g., [BUSx310 Ethics: Theory & Practice].

Your Personalized MyExcelsior Account:

www.excelsior.edu/MyExcelsior

Graduate Programs Advising Team:

toll free 888-647-2388, ext. 1341

Excelsior College Course Information and Registration:

www.excelsior.edu/courses

Course/Exam Approval:

www.excelsior.edu/MessageCenter

Excelsior College Learning Resources:

www.excelsior.edu/library

www.excelsior.edu/bookstore

www.excelsior.edu/MyExcelsior, click on the Resources tab

Excelsior College Community Resources:

www.excelsior.edu/MyExcelsior, click on Communities tab

Degree Requirements

30 credits

The Master of Science in Cybersecurity program requires a minimum of 30 graduate-level credits, with nine required courses. Students in this program are allowed to transfer in a maximum of 9 approved, graduate-level credits, thus, requiring a minimum of 21 credits to be taken directly at Excelsior College.

Required Subjects

Digital Crime Prevention and Investigation (4 credits) [CYS 585 Digital Crime Prevention and Investigation]

Communication Security (4 credits) [CYS 501 Communications Security]

Ethics, Legal, and Compliance Issues in Cybersecurity (3 credits) [CYS 541 Ethics, Legal, and Compliance Issues in Cybersecurity]

Information Assurance (3 credits) [CYS 560 Information Assurance]

IT Risk Analysis and Management (3 credits) [CYS 575 IT Risk Analysis and Management]

Cyber Attacks and Defenses (3 credits) [CYS 526 Cyber Attacks and Defenses]

Advanced Networking (3 credits) [CYS 522 Advanced Networking]

Project Management (3 credits) [BUS 530 Project Management Principles and Application]

Capstone Project in Cybersecurity (4 credits) [CYS 595 Capstone Project in Cybersecurity is the required capstone course and must be taken through Excelsior College and cannot be transferred in.]

Note: Students might need to take additional course(s) if they do not have the appropriate prerequisites to complete the program.

CHART 12

Master of Science in Cybersecurity

Total Degree Credits Required: 30

MS

Required Subjects

Credit Hours

Digital Crime Prevention and Investigation	4
Communication Security	4
Ethics, Legal, and Compliance Issues in Cybersecurity	3
Information Assurance	3
IT Risk Analysis and Management	3
Cyber Attacks and Defenses	3
Advanced Networking	3
Project Management	3
Capstone Project in Cybersecurity	4

Total Credits

30

Certificate Programs in Technology



Certificate programs provide the opportunity to gain expertise in a particular field of study by concentrating on core elements within an accelerated framework. The career benefits from obtaining a certificate include, but are not limited to, promotion, salary increases, employee recognition, or simply personal achievement.

Our certificate programs can be completed in a relatively short period of time, therefore, for some, this approach may prove more practical and time efficient than a full degree program. Certificate programs are also a great way to help determine whether going back to school is right for you, because you are not committing to an entire degree program.

Credits earned for the undergraduate Cybersecurity Certificate may transfer into the Bachelor of Science in Business or Information Technology programs from the School of Business & Technology, or the Bachelor of Science in Liberal Arts with a major in Criminal Justice from the School of Liberal Arts.

Credits earned for the graduate Cybersecurity Management Certificate may transfer into the MBA or Master of Science in Cybersecurity from the School of Business & Technology, or the Master of Science in Criminal Justice from the School of Liberal Arts.

Contact your academic advisor for more information.

Undergraduate Certificate in Cybersecurity

The undergraduate certificate in Cybersecurity is cross-listed between the School of Business & Technology and the School of Liberal Arts. This **16**-credit undergraduate certificate comprises introductory courses in cybersecurity technology and fundamental knowledge in cyber crime investigation.

All students will be required to complete the capstone course, CYS 460, at Excelsior College. Approved courses from other institutions may be accepted in transfer for the remaining requirements.

Program Outcomes

Upon successful completion of the Excelsior College undergraduate certificate in Cybersecurity, the student will be able to:

1. Explain incident response handling, incident coordination, and ethical and legal issues.
2. Explain the process of building and coordinating a Security Incident Response team and a Product Security team.
3. Assess security risk and vulnerability of existing and proposed information systems.
4. Investigate cyber crime and apply best practices for managing attack situations with a Security Incident Response team.
5. Explain how to build relationships with other Incident Response teams, organizations, and law enforcement to improve incident response effectiveness.

Course Requirements

CYS 245
Introduction to Cybersecurity (1 credit)

CYS 300
Computer System Security Fundamentals (3 credits)

CYS 345
Cybersecurity Defense in Depth (3 credits)

CYS/CJ 475
Large-Scale Cyber Crime and Terrorism (3 credits)

CYS/CJ 387
White Collar Crime (3 credits)

CYS 460 (capstone)*
Cybersecurity Investigations and Case Studies (3 credits)

Total 16 credits

* **CYS 460 Cybersecurity Investigations and Case Studies** is the required capstone course and must be taken through Excelsior College and cannot be transferred in.

Graduate Certificate in Cybersecurity Management

The **16**-credit graduate certificate in Cybersecurity Management is a graduate-level certificate composed of five graduate-level courses. This certificate will serve as a lead-in to the MBA concentration in Cybersecurity Management or the Master of Science degree in Cybersecurity.

Depending on content, students may transfer up to 8 credits into the certificate program. All students must complete the capstone course, CYS 590, at Excelsior College.

Program Outcomes

Upon successful completion of the graduate certificate in Cybersecurity Management, the student will be able to:

1. Apply effective information security techniques to monitor, maintain, and enhance the protection of enterprise-wide information assets.
2. Implement an Incident Response team that legally, ethically, and efficiently responds to cyber incidents.
3. Detect, analyze, and respond to cyber attacks on networks and computer systems.
4. Conduct risk and vulnerability assessments of existing and proposed information systems.
5. Utilize the best sources of information available related to cyber-security issues, threats, and recovery.
6. Apply strategies to build relationships with other Incident Response teams, organizations, and law enforcement to improve incident response effectiveness.

Course Requirements

CYS 541
Ethics, Legal, and Compliance
Issues in Cybersecurity **(3 credits)**

CYS 560
Information Assurance **(3 credits)**

CYS 575
IT Risk Analysis and Management **(3 credits)**

CYS 565
Security Management Awareness **(3 credits)**

CYS 590 (capstone)*
Special Topics in Cybersecurity **(4 credits)**

Total **16 credits**

* **CYS 590 Special Topics in Cybersecurity** is the required capstone course and must be taken through Excelsior College and cannot be transferred in.

Technology Programs Advising Team:

toll free 888-647-2388, ext. 1341

Excelsior College Course Information

and Registration and Course/Exam Approval:

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www.excelsior.edu/MyExcelsior, click on the Resources tab

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continued

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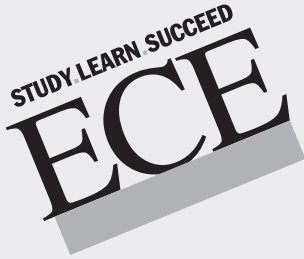
Advisory Engineer
IBM Microelectronics

New York State Education Department Inventory of Registered Programs

Higher Education General Information Survey Code for Classifying Academic Subject Areas.

Program Title	HEGIS	Award
School of Business and Technology, Business Programs		
Administrative/Management Studies	5004	AAS
Business	5001	AS
Business	0501	BS
Accounting (NYS CPA Track)	0502	BS
Bachelor of Professional Studies in Business and Management	0599	BPS
Business	0506	MBA
School of Health Sciences Programs		
End of Life Care	1299	Certificate
Health Care Informatics	1203.12	Certificate
Health Care Management	1203.12	Certificate
Health Sciences	1201	BS
School of Liberal Arts Programs		
Homeland Security	5505	Certificate
Liberal Arts	5649	AA, AS
Liberal Studies	4901	BA, BS, MA
Criminal Justice	2105	BS, MS
History	2205	BA, BS
Humanities	1599	BA
Military Studies	2299	BS
Natural Sciences	1901	BS
Psychology	2001	BA, BS
Social Sciences	2201	BS
Sociology	2208	BA, BS

Program Title	HEGIS	Award
School of Nursing Programs		
Nursing	5208	AAS, AS
Nursing	1203.10	BS, RN-MS, MS
School of Business and Technology, Technology Programs		
Cybersecurity	5199	Certificate
Cybersecurity Management	0799	Certificate
Technical Studies	5315	AAS
Nuclear Technology	5316	AS
Technology	5305	AS
Technology	0925	BS
Electrical Engineering Technology	0925	BS
Information Technology	0702	BS
Nuclear Engineering Technology	0925	BS
Bachelor of Professional Studies in Technology Management	0599	BPS
Cybersecurity	0702	MS



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