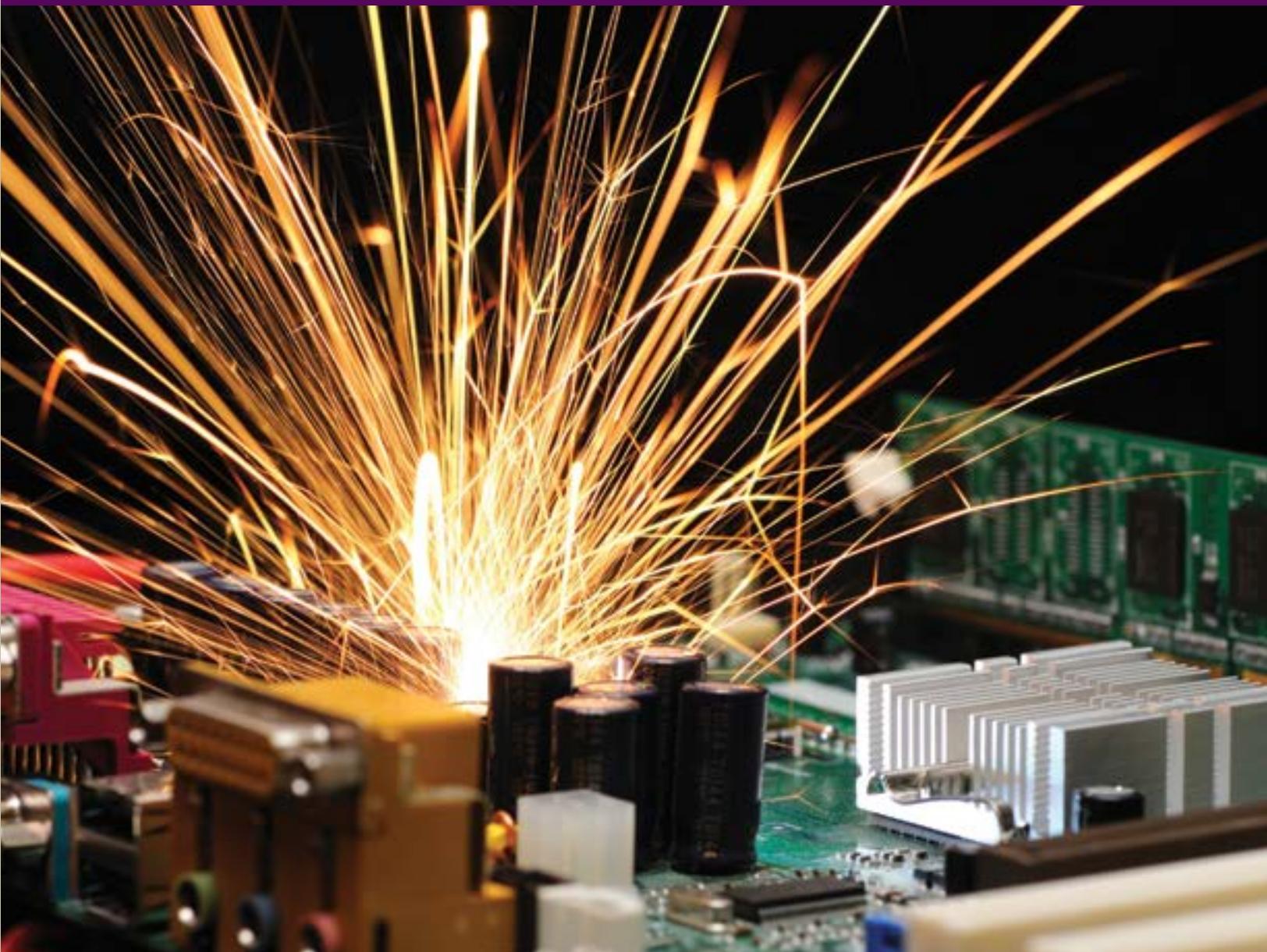


Keeping current
in a changing world.



Bachelor of Science in Electrical Engineering Technology
with concentrations in Electronics, Nanotechnology and Power Systems



Earn your degree from a world leader.

As an accredited world leader in online learning, Excelsior College has helped busy working adults earn their college degrees for four decades. With more than 150,000 graduates, we empower you to fit learning into your life with courses that allow you to study at your convenience. As a result, you earn your Electrical Engineering Technology degree in a flexible and affordable manner.

Excelsior was founded as Regents College in 1971 and chartered as a private, nonprofit institution in 1998. We are accredited by the Commission of Higher Education of the Middle States Association of Colleges and Schools.

We've reengineered our Bachelor of Science in Electrical Engineering Technology.

Excelsior's Bachelor of Science, Electronics Engineering Technology has evolved into the Bachelor of Science, Electrical Engineering Technology. Along with our electronics concentration, this enhanced program will offer you two new cutting-edge concentrations in nanotechnology and power systems.

With an innovative curriculum designed and taught by seasoned industry experts, our degree will position you to take the lead in the dynamic high technology field of electrical engineering technology. It's also one of the few bachelor's degree programs anywhere offering you a concentration in nanotechnology.



Our flexible program is specially designed to meet the needs of working adult learners. We also allow you to demonstrate your previous college-level learning and earn degree-level credit in a variety of ways including submission of transcripts, exams and other assessment procedures.

Excelsior's degree gives you the option of a 15-credit hour concentration in electronics, nanotechnology or power systems. All courses will be taught online. You'll be required to complete five online courses in your concentration, including three laboratories.

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. ABET is a specialized accrediting agency recognized by the Council for Higher Education Accreditation (CHEA).

Electronics Concentration

Our Electronics Concentration requires the following courses:

Advanced Digital Electronics — Explores systematic design methods for sequential state machines including specification and modeling of sequential systems and implementation using programmable logic devices.

Microprocessors II — A detailed study of microprocessor/microcontroller applications in data acquisition and process control systems.

Control Systems — 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.

Electronic Communications — Discusses principles and applications of communication circuits, transmitters and receivers, modulation, transmission lines and media, wave propagation, analog versus digital communication techniques, protocols and communication networks.

Business Data Communications — Overview of the current theory and practice of business data communications and networks. Emphasizes the role of the telecommunications industry in the growth of information societies and their reliance on knowledge and information services to stimulate economic growth.

Power Systems Concentration

Our Power Systems Concentration includes the following courses:

Instrumentation and Data Acquisition — This course provides an introduction to virtual instrumentation and data acquisition. Topics covered include virtual instruments, sub virtual instruments, structures, and data acquisition.

Electrical Machines and Energy Conversion — Topics covered include energy storage and conversion, force and emf production, electromagnetic induction, transformers, and generators. Performance characteristics of DC, induction, and synchronous machines will be studied. Stepper motor and brushless DC machines will also be covered in this course.

Programmable Logic Controllers — Introduces students to programmable logic controllers (PLCs) and their applications. Topics include PLC programming, troubleshooting, networking, and industrial applications.

Generation and Transmission of Electric Power — This course focuses on electric power generation and transmission systems. Topics covered include power flow, economic scheduling of electric power generation, transmission operations, and power systems faults.

Power Electronics — This course covers principles of operation of power semiconductor devices such as Thyristors and IGBTs. Also covers fundamentals of power converter circuits including DC/DC converters, phase controlled AC/DC rectifiers, and DC/AC inverters.





Arts and Sciences Component

Communications (Must include 6-credit Written English Requirement)	9
Ethics	3
Social Sciences/ History	9
Humanities	3
Math (At the level of College Algebra and above including Calculus I and II and Differential Equations)	12
Natural Sciences (Including Physics I and II with at least one physics lab)	12
Arts and Sciences Electives	12
Total Arts and Sciences Component	60
Free Electives	6
Information Literacy	1

Electrical Engineering Tech Component

(Minimum of 16 UL credits)

EET Core DC Circuits AC Circuits Electronics I Electronics II Digital Electronics Microprocessors Computer Programming Project Management	
4 Labs from the following: DC Circuits; AC Circuits; Electronics I; Electronics II; Microprocessors; Digital Electronics	
Integrated Technology Assessment (Capstone)	
EET Concentration	15
Technology Electives	
Minimum EET Component	57
Total Degree Credits	124

Concentration Requirements

(all students must complete a concentration)

(A minimum of 15 credits; 9 upper level credits. At least 3 of the courses must include labs.)

Electronics Concentration

- Advanced Digital Electronics
- Microprocessors II
- Control Systems
- Electronic Communications
- Business Data Communications

Nanotechnology Concentration

- Introduction to Nanotechnology
- Basic Nanofabrication Process
- Nanotechnology Process Equipment
- Introduction to Nanofabrication Manufacturing Technology
- Micro-electro-mechanical Systems (MEMS)

Power Systems Concentration

- Instrumentation and Data Acquisition
- Electrical Machines and Energy Conversion
- Programmable Logic Controllers
- Generation and Transmission of Electric Power
- Power Electronics

Note: Students may meet any requirements with approved transfer credit except for the capstone course, Integrated Technology Assessment.





Nanotechnology Concentration

Excelsior's Nanotechnology Concentration includes the following courses:

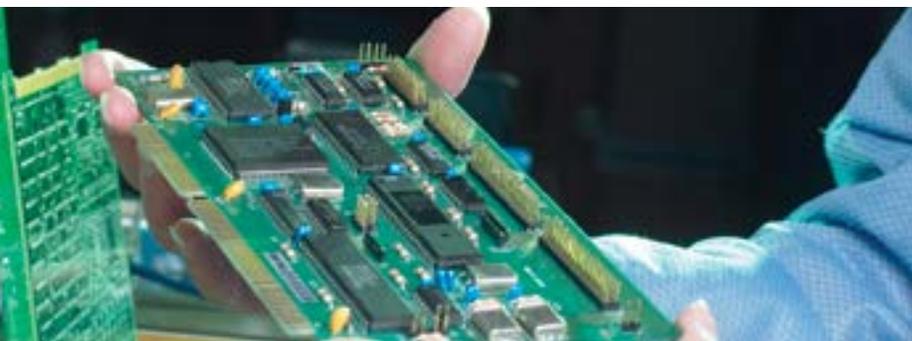
Introduction to Nanotechnology — Covers topics including manipulation of materials at nanoscale, carbon nanotubes, semiconductor quantum dots, nanoparticles, nanoshells, nanobiology applications, nanosensors applications, nanomedicines and molecular nanomachines.

Basic Nanofabrication Process — Provides an introduction and basic understanding of the fundamental principles of Basic Nanofabrication Processes used in industrial and research applications of nanotechnology. This course also showcases examples of specific industrial applications in electronics, photonics, chemistry, biology, medicine, defense and energy.

Nanotechnology Process Equipment — Offers a description and understanding of the equipment used in nanofabrication processes at the manufacturing level as well as at the research and development stages.

Introduction to Nanofabrication Manufacturing Technology — An introduction to the fundamentals of Nanofabrication Manufacturing Technology (NMT). You'll learn the basic concepts of NMT and then study its applications.

Micro-electro-mechanical Systems — Focuses on MEMS (Micro-electro-mechanical Systems) and NEMS (Nano-electro-mechanical Systems). Topics include MEMS and NEMS architecture, synthesis, modeling and control.



Nanotechnology: A Quantum Leap to a Great Future

Today, nanotechnology is revolutionizing industries including communications, medicine, agriculture, textiles, and semiconductor and microelectronics manufacturing. Tomorrow, it promises breakthroughs from downloading products from the Web and building them atom by atom, to tiny robots coursing through your bloodstream repairing cells.

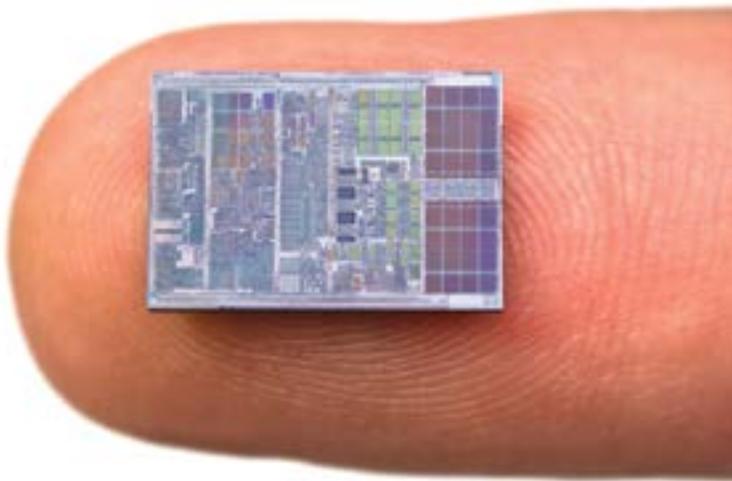
By 2015 nanotechnology will contribute roughly \$1 trillion to the global economy, and about two million workers will be employed in nanotech industries.

The nanotechnology field is poised for explosive growth, yet there is a shortage of engineers, technologists and technicians who support experimentation, fabrication and testing.

Excelsior's nanotechnology concentration will address this challenge by providing education and training in nanotechnology — preparing you for a great career in everything from nanoelectronics design and fabrication to biomedical research and energy R&D.

Find out more about
the Bachelor of Science in
Electrical Engineering Technology
and all of our other
technology programs.

Call 888-647-2388, ext. 27
Email admissions@excelsior.edu
Visit excelsior.edu/technology



The power of interdisciplinary thinking.

Excelsior's Bachelor of Science in Electrical Engineering Technology features an interdisciplinary curriculum that will give you an extremely well-rounded education – a solid background in arts and sciences plus the skills you need to succeed in electrical engineering technology.

You'll learn from faculty with decades of teaching, consulting and industrial experience. All faculty members have advanced degrees, have earned additional certifications, and have authored numerous technical publications.

With this program, you'll be able to study anywhere – at school, work, home, even on a trip – while interacting with our faculty and your fellow students online in a variety of ways.