Bachelor of Science & Engineering Program Overview

Nova Southeastern University

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NOVA COLLEGE
The Corporate Division

BACHELOR PROGRAMS
- Electrical Engineering
- Electronic Technology
- Computer Science
- Mathematics

CERTIFICATE PROGRAMS
- Basic Electronics
- Advanced Electronics
- Computer Science

Develop Your Technical Potential
Part Time and Full Time Degree Programs
Designed for the Working Adult in Cooperation with Industry
"Second Bachelor" Programs for those who now need a Technical Degree

FORMAT
Classes will meet for 4.5 hours for 9 sessions either in the evening from 6-10:30 PM or on Saturday from 8:30 AM - 1:00 PM at the main Nova campus, or at industrial sites.

ADMISSION REQUIREMENTS
Students must be high school graduates (or equivalent), and take the Corporate Division Placement Test, which will evaluate ability to read, write, and perform mathematical calculations (hand calculator permitted) on the level needed for college work. College Board or Miller Analogy scores may be substituted by students in lieu of Placement Test. A student may take up to 2 courses as a Special Student or while in the process of applying before taking the Placement Test.

CAN I TAKE A COURSE OR TWO WITHOUT ENROLLING IN A DEGREE PROGRAM?
YES. In this case, you check "Special Student" on the application form. You do not have to take the Placement Test to take one or two courses as a "special student."

HOW DO I APPLY FOR ADMISSION?
Complete the application forms and return with a non-refundable $15.00 application fee by mail or in person. All checks should be made payable to NOVA UNIVERSITY. All materials should be sent to Nova College, Registrar's Office, Nova University, 3301 College Avenue, Fort Lauderdale, FL 33314.

HOW DO I REGISTER?
Discuss your needs with the counselor, by phone or in person, complete the registration form. It should be returned with a check in the appropriate amount made out to NOVA UNIVERSITY and sent to the same address as indicated in the admission question above.

WHAT IS THE COST OF ATTENDING?
Application fee (non-refundable): $15.00
Registration fee: $15.00
Tuition (per credit): $75.00
Late registration fee (after Feb. 27): $10.00

WHAT CREDIT CARDS CAN I USE?
Master Charge
VISA
Hollywood Buy-O-Matic

FOR INFORMATION CALL:
BROWARD COUNTY: 475-7650
DADE COUNTY: 940-6644, Ext. 7649/50 (toll free)
PALM BEACH COUNTY: 732-6600, Ext. 7649/50 (toll free)

Nova University / College Avenue / Fort Lauderdale, Florida 33314

Nova University is fully accredited by the Southern Association of Colleges & Schools
Prerequisite: Computer Programming I

Structured Programming

Basic principles of structured programming and language foundation. PASCAL will be taught as an example of a structured programming language.

Prerequisite: Computer Programming I or Equivalent.

CS-240 Digital Design

Continuation of Digital Systems course with particular emphasis on the organization and structuring of major hardware components and peripheral devices. The mechanics of information transfer and control within a digital system and the fundamentals of logic design will be discussed. Prerequisite: Digital Systems or Equivalent.

CS-310 Programming Techniques

Advanced programming techniques including algorithm analysis, database management, memory management. Prerequisite: Digital Systems, Computer Programming II, some advanced languages.

CS-350 Computer Circuit Design

Design of combinational and sequential digital circuits. Prerequisite: Digital Design.

EE-440 Energy Systems

Conversion of energy between electrical and other forms — electromechanical, electrochemical, photoelectric, thermoelectric and other methods of conversion are studied, transmission of electric power. Prerequisite: Physics II and Electronics I

CS-220 Business Oriented Language (COBOL)

A detailed study of COBOL languages with application to business problems, identifications, environment, data and procedure divisions, syntax structure. File organization is discussed in connection with the data processing system.

Prerequisite: Computer Programming I or Equivalent.

CS-170 Computer Programming I

An introduction to good programming techniques including flow charting, code design, debugging techniques and documentation, problem-solving methods and algorithm development to be used in the design of computer programs. The language, BASIC, will be taught as part of this course. An introduction to the use of microcomputers and computer terminals.

E-TR 110 Networks I

Networks I

Prerequisite: Digital Systems, Computer Programming II, some advanced languages.

E-TR 120 Electronics I

Electronics I

Prerequisite: Digital Systems, Computer Programming II, some advanced languages.

E-TR 130 Electronics Lab I

Electronics Lab I

Prerequisite: Digital Systems, Computer Programming II, some advanced languages.

E-TR 230 Electricity Lab II

Electricity Lab II

Prerequisite: Digital Systems, Computer Programming II, some advanced languages.

E-TR 255 Electricity Laboratory

Basic lab to complement Networks theory courses.

E-TR 430 Networks III

Continuation of Networks II to include Fourier series and Z-transforms, magnetic coupling, introduction to filter theory, and advanced topics in Networks Theory.

Prerequisite: Networks II, Calculus II
## SUMMARY OF PROGRAM REQUIREMENTS

<table>
<thead>
<tr>
<th>EE</th>
<th>ET</th>
<th>CS</th>
<th>MATH</th>
<th>SYS</th>
<th>BEC</th>
<th>AEC</th>
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<td>x</td>
<td>x</td>
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</table>

All courses are 3 semester hours of credit unless otherwise indicated.

- MAT-140 Technical Mathematics
- MAT-150 College Mathematics
- MAT-210 Calculus I
- MAT-220 Calculus II
- MAT-230 Calculus III
- MAT-310 Differential Equations
- MAT-320 Advanced Calculus
- MAT-420 Linear Algebra
- MAT-430 Fns. of a Complex Variable
- MAT-440 Numerical Analysis
- MAT-450 Probability & Statistics
- PHY-140 Physics I
- PHY-150 Physics II
- PHY-160 Physics III
- PHY-210 Modern Physics
- PHY-212 Science of Matter or Chemistry
- CS-160 Digital Systems
- CS-170 Computer Programming I
- CS-210 Fortran
- CS-220 Business Oriented Language (COBOL)
- CS-230 Structured Programming
- CS-240 Digital Design
- CS-255 Computer Programming II
- CS-310 Programming Techniques
- CS-320 Organization of Programming Languages
- CS-340 Introduction to File Processing
- CS-350 Computer Circuit Design
- CS-360 Computer Architecture
- CS-410 System Design & Analysis
- CS-420 Operating System Concepts
- CS-430 Simulation & Modeling
- CS-440 Microcomputers
- CS-450 Data Base Management Systems Design
- CS-460 Assemblers and System Programming
- CS-470 Information Systems Analysis and Design
- ETR-110 Networks I
- ETR-120 Electronics I
- ETR-130 Electronics Lab I (1 cr.)
- ETR-220 Electronics II
- ETR-230 Electronics Lab II (1 cr.)
- ETR-250 Networks II
- ETR-255 Electricity Laboratory (1 cr.)
- ETR-320 Electronics III
- ETR-430 Networks III
- EE-410 Electromagnetic Theory
- EE-420 Field Transmission Lines
- EE-430 Fund. of Communication Systems
- EE-440 Energy Systems
- EE-450 Control Systems
- EE-460 Micro-electronics
- MT-220 Principles of Technology
- MT-320 Engineering Drawing (2 cr.)
- MT-330 Industrial Planning
- MT-350 Fund. of Control System Technology
- MT-380 Strength of Materials (4 cr.)
- ET-210 Instrumentation I
- ET-310 Instrumentation II
- ET-410 Electronic Technology
- ET-420 Fund. of Communication Technology
- 30 credits in Business

### PROGRAM REQUIREMENTS

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Code</th>
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<tbody>
<tr>
<td>B.S. Electrical Engineering (EE)</td>
<td>138</td>
<td>460</td>
</tr>
<tr>
<td>B.S. Computer Science (CS)</td>
<td>120</td>
<td>463</td>
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<tr>
<td>B.S. Computer Science with a Business Systems Option</td>
<td>120</td>
<td>463</td>
</tr>
<tr>
<td>B.S. Electronic Technology (ET)</td>
<td>120</td>
<td>461</td>
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<tr>
<td>Basic Electronic Cert. (BEC)</td>
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<td>Advanced Electronic Cert. (AEC)</td>
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<td>361</td>
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<tr>
<td>Computer Science Cert.</td>
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<td>Individualized</td>
<td></td>
<td>363</td>
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<tr>
<td>100 level are beginning courses</td>
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<td></td>
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<tr>
<td>200 and 300 level are intermediate</td>
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<tr>
<td>courses</td>
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<tr>
<td>400 level are advanced courses</td>
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</tbody>
</table>
Course Descriptions

MAT-150 College Mathematics (Precalculus)
Review of algebra, trigonometric functions, graphs of functions, logarithms, exponents, functions of the natural number, introduction of calculus, concept of limits, integrals.

MAT-220 Calculus II
Riemann sums, the definite integral, methods of integration, continuation of exponential logarithmic functions, inverse trigonometric functions, L’Hospital’s rule, and improper integrals. Prerequisite: Calculus I or Equivalent

MAT-310 Differential Equations
Solving first order ordinary differential equations, exact, separable and linear. Applications to rates and mechanics, theory of higher order linear differential equations. Methods of undetermined coefficients and variation of parameters, application to vibrating mass and electric circuits; power series solutions. Partial differential equations: the methods of separation of variables, linear partial differential equations and their application to electronics and electrical engineering problems; solutions of initial boundary problems; Fourier series and Fourier transforms; inhomogeneous problems; introduction of numerical methods. Laplace transforms. Prerequisite: Calculus III or Equivalent

PHY-140 Physics I
Basic principles of mechanics including Vectors, force, equilibrium, displacement, velocity, acceleration, mass, Newton’s Laws, work energy, gravitation, momentum, rotational motion, mechanics of systems of particles and rigid bodies. Prerequisite Calculus I

WHAT ARE REGISTRATION POLICIES?

How to Drop and Add Courses.

The first week of classes is the Drop/Add Period. After a class has met once you must receive written permission from the instructor or your counselor to add the class. The normal refund policy applies to a course dropped during the drop and add period unless another course of equal credit, with the same term beginning date, is added in its place.

The Registrar’s Office must be notified in writing of the course to be dropped. This may be done by completing a change of registration form available in the Registrar’s Office or by mailing a simple written note to the Registrar’s Office.

Tuition Refund Policy

The following refund policy will be computed based upon the date written notification of the drop is received by the Registrar’s Office:

100% refund prior to the first class meeting.

75% refund prior to the second class meeting, regardless of class attendance.

50% refund prior to the third class meeting, regardless of class attendance.

Fees are non-refundable.

NOVA COLLEGE OFFERS A NUMBER OF ADDITIONAL DEGREE PROGRAMS IN BOTH DAY AND EVENING FORMAT.

For Information Call: 475-7340

After the third class meeting, a student may withdraw from a course by completing a “Withdrawal Form” available in the Registrar’s Office. After one half of the course is completed, instructor's or counselor's approval is required to withdraw from a course.

How to Withdraw

If you wish to withdraw from a course after the refund period is over you must submit a completed withdrawal form to the registration office within the first half of the course. Between that time and the last class meeting before the final exam, you may withdraw and obtain a "W" only with the consent of the instructor. The grade of "W" remains permanently on the record if the work is not completed within the extension period.

How to Take an Incomplete

With the written approval of the course instructor, you may have up to one additional term to complete the course and receive a letter grade. An incomplete form must be completed and signed by the instructor in order to receive a grade of “I”. The grade of “I” remains permanently on the record if the work is not completed within the extension period.

FINANCIAL AID

Nova University participates in various governmental financial aid programs for the benefit of its students.

For information call: 475-7410