Bachelor Degree Programs For Students Working in Business and Industry March 1982

Nova Southeastern University
BACHELOR DEGREE PROGRAMS
For Students Working In Business And Industry

• ELECTRICAL ENGINEERING
• COMPUTER SCIENCE
• COMPUTER SYSTEMS

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

WHAT IS THE PROGRAM 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.

WHAT ARE THE ADMISSION REQUIREMENTS?
Students must be high school graduates (or equivalent), and take the Nova College Placement Test, which will evaluate ability to read, write, and perform mathematical calculations on the level needed for college work. 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 $20.00 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): $20.00
Registration fee: $10.00
Tuition (per credit): $85.00
Late registration fee (after Feb. 26): $10.00

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

FOR INFORMATION CALL:
BROWARD COUNTY: 475-7650
DADE COUNTY: 940-6447, 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 and Schools. Nova University accepts students of any race, color, and national or ethnic origin.
COURSES BEGINNING MARCH 8, 1982

<table>
<thead>
<tr>
<th>COURSE NO.</th>
<th>DESCRIPTION</th>
<th>DAY</th>
<th>SECTION</th>
<th>TIME</th>
<th>LOCATION</th>
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<tr>
<td>CS-360</td>
<td>Computer Architecture</td>
<td>M</td>
<td>A</td>
<td>6:00pm-10:30pm</td>
<td>P107</td>
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<tr>
<td>CS-330</td>
<td>Structured Programming (Pascal)</td>
<td>M</td>
<td>A</td>
<td>6:00pm-10:30pm</td>
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<tr>
<td>CS-150</td>
<td>Introduction to Computer Organization</td>
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<tr>
<td>ETR-330</td>
<td>Electronics</td>
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<tr>
<td>CS-170</td>
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<td>A</td>
<td>6:00pm-10:30pm</td>
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<tr>
<td>CS-240</td>
<td>Digital Design</td>
<td>Th</td>
<td>A</td>
<td>6:00pm-10:30pm</td>
<td>P107</td>
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<tr>
<td>EE-436</td>
<td>Fundamentals of Communication Systems</td>
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<td>A</td>
<td>6:00pm-10:30pm</td>
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<tr>
<td>CS-420</td>
<td>Operating System Concepts</td>
<td>S</td>
<td>A</td>
<td>8:30am-1:30pm</td>
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COURSE DESCRIPTIONS

CS-150 Introduction to Computer Organization
An introduction to principles of digital computer operation and organization, data representation, central processing unit, input/output devices, and number systems.

CS-170 Computer Programming I
An introduction to good programming techniques including flow charting, code design, debugging techniques and documentation, problem-solving methods, and algorithms used 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.

CS-220 Business Oriented Language (COBOL)
A detailed study of COBOL languages with application to business problems, identification, environment, data and procedure division, syntax structure. File organization is discussed in connection with the data processing system.

CS-240 Digital Design
Application of the principles of logic design in digital systems. Arithmetic logic units, parallel and serial interfaces, information transfer in a digital system, major hardware components and peripheral devices, digital computers. Prerequisite: Fundamentals of Logic Design or Equivalent.

CS-310 Programming Techniques
Advanced programming techniques including algorithm analysis, structured programming techniques, program design, large program development and management. Prerequisite: Basic and FORTRAN.

CS-330 Structured Programming (Pascal)
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 extensive programming experience required.

CS-335 Assemblers and Assembly Language Programming
Techniques of assembly language programming, operation of assemblers, concepts of assembly macros.

Assembly language programs will be written as part of this course. Prerequisite: FORTRAN.

CS-360 Computer Architecture
The analysis and design of computer systems; the interaction of software and hardware design in the final computer system, interaction between operating system and the architecture of computer systems; concurrent processes and resource allocation. Prerequisite: Computer Circuit Design.

CS-420 Operating System Concepts
Methods in the analysis and design of large-scale systems, including concepts of processes, linear address space, resource allocation, protection and advanced topics in operational systems implementation. Prerequisite: Computer Programming II or Equivalent.

CS-430 Simulation and Modeling
Construction and use of complex models on digital computers, structure of simulation language, verification and validation of models, statistical analysis of results. Students will design and run a number of simulations. Prerequisite: Knowledge of Basic and two higher level languages.
# SUMMARY OF PROGRAM REQUIREMENTS

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

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<th>EE</th>
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**Social Science** (3 cr.)

**Communications** (3 cr.) (Lan. 111)

**Communications** (3 cr.) (Lan. 112)

**Behavioral Science** (12 credits)

**Humanities** (3 cr.)

**MAT-150** College Mathematics

**MAT-210** Calculus I

**MAT-220** Calculus II

**MAT-305** 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-212** Science of Matter or Chemistry

**PHY-310** Modern Physics

**CS-150** Introduction To Computer Organization

**CS-160** Fundamentals of Logic Design

**CS-170** Computer Programming I

**CS-210** Fortran

**CS-220** Business Oriented Language (COBOL)

**CS-240** Digital Design

**CS-305** Computer Programming II

**CS-310** Programming Techniques

**CS-320** Organization of Programming Languages

**CS-330** Structured Programming (PASCAL)

**CS-340** Introduction to File Processing

**CS-350** Computer Circuit Design

**CS-360** Computer Architecture

**CS-370** Computer Design & Analysis

**CS-410** Operating System Concepts

**CS-420** Simulation & Modeling

**CS-430** Microcomputers

**CS-450** Data Base Management Systems Design

**CS-460** Assemblers and System Programming

**CS-470** Information Systems Programming

**CS-480** Networks I

**CS-490** Electricity Laboratory (1 cr.)

**CS-500** Networks II

**CS-510** Electronics I

**CS-520** Electronics Lab I (1 cr.)

**CS-530** Electronics II

**CS-540** Electronics Lab II (1 cr.)

**CS-550** Electronics III

**CS-560** 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

**EE-470** Elect. Eng. Analysis/Design

**TEC-220** Engineering Drawing

**TEC-320** Technical Communication

**TEC-330** Technical Writing

**TEC-370** Technical Documentation I

**TEC-380** Technical Documentation II

**TEC-470** Seminar in Technical Communication

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<tbody>
<tr>
<td>Electives (in credits)</td>
<td>30 credits in Business or other approved discipline</td>
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**PROGRAM REQUIREMENTS**

<table>
<thead>
<tr>
<th>Degree</th>
<th>Code</th>
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<tbody>
<tr>
<td>B.S. Electrical Engineering (EE)</td>
<td>138 credits</td>
</tr>
<tr>
<td>B.S. Computer Science (CS)</td>
<td>120 credits</td>
</tr>
<tr>
<td>B.S. Computer Systems (SYS)</td>
<td>120 credits</td>
</tr>
<tr>
<td>B.S. Computer Systems/Technical Communications (SYS/TC)</td>
<td>120 credits</td>
</tr>
<tr>
<td>B.S. Mathematics</td>
<td>120 credits</td>
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</table>

100 level are beginning courses
200 and 300 level are intermediate courses
400 level are advanced courses
EE-430 Fundamentals of Communication Systems
Review of Fourier analysis, various methods for modulating and demodulating signals, calculating effects of noise on single transmission, sampling theory and digital data transmission, transmission lines and microwaves, mathematical description of noise, fundamentals of information theory as applied to communications. Prerequisite: Networks II, Electronics IV.

ETR-330 Electronics I
Physical theory and analysis of semi-conductor properties, circuits containing non-linear elements, semi-conductor diodes, zener diodes, conduction in semiconductors, transistor characteristics, large system signal analysis, small models, single-stage amplifiers. Prerequisite: Networks I or Equivalent.

MAT-210 Calculus I
Functions, limits, derivatives of algebraic functions, introduction to derivatives of trigonometric functions, logarithmic functions, application of derivatives to physics problems, related rates and maximum/minimum problems, definite and indefinite integrals with applications.

MAT-305 Calculus III
Sequences and series, Taylor series, vector analysis functions of several variables, partial derivatives, total differential chain rule; multiple integral and application functions of a complex variable. Prerequisite: Calculus II.

PHY-160 Physics III
Thermodynamics, entropy, wave motion & optics, temperature, heat and kinetic theory, reflection and refraction of light, interference and defraction polarization radiation. Prerequisite or Co-requisite: Calculus I.

PLEASE NOTE: CS-335 IS NOW REQUIRED OF ALL COMPUTER SCIENCE AND COMPUTER SYSTEM MAJORS ALTHOUGH IT IS NOT LISTED IN THE CHART ABOVE. STUDENTS WHO HAD PLANNED TO TAKE CS-460 SHOULD TAKE CS-335.

The Center also offers a Master of Science degree with a major in Computer Science.

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 FORM.

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 registrar's 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 or academic counselor on the withdrawal form. You are expected to attend all classes and may be administratively withdrawn if you fail to meet attendance requirements of the instructor.

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