1982

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

Nova Southeastern University

NOVA UNIVERSITY
CENTER FOR SCIENCE AND ENGINEERING

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)	$110.00
Late registration fee (after Oct. 22)	$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 NOVEMBER 1, 1982

COURSE NO.	SEC	COURSE TITLE	DAY	DATES	TIME	LOCATION
CS-160	A	Fundamentals of Logic Design	M	11/1-1/10	6:00-10:30 pm	P-208
EE-255	A	Electricity Laboratory (1 cr.)	M	11/1-1/10	6:00-10:30 pm	P-336
EE-335	A	Electronics Laboratory I (1 cr.)	M	11/1-1/10	6:00-10:30 pm	P-336
EE-345	A	Electronics Laboratory II (1 cr.)	M	11/1-1/10	6:00-10:30 pm	P-336
MAT-440	A	Numerical Analysis	M	11/1-1/10	6:00-10:30 pm	P-106
CS-370	A	Software Design	M	11/1-1/10	6:00-10:30 pm	P-
CS-170	A	Computer Programming I	T	11/2-1/11	6:00-10:30 pm	P-208
CS-480	A	Intro. to Compilers & Interpreters	T	11/2-1/11	6:00-10:30 pm	P-209
EE-440	A	Energy Systems	T	11/2-1/11	6:00-10:30 pm	P-106
PHY-160	A	Physics III	T	11/2-1/11	6:00-10:30 pm	P-
CS-200	A	Computer Programming II	W	11/3-1/12	6:00-10:30 pm	P-208
CS-330	A	Structured Programming (PASCAL)	W	11/3-1/12	6:00-10:30 pm	P-209
CS-410	A	System Design and Analysis	W	11/3-1/12	6:00-10:30 pm	P-146
EE-330	A	Electronics I	W	11/3-1/12	6:00-10:30 pm	P-142
MAT-210	A	Calculus I	W	11/3-1/12	6:00-10:30 pm	P-106
CS-210	A	Fortran	Th	11/4-1/13	6:00-10:30 pm	P-208
CS-350	A	Computer Circuit Design	Th	11/4-1/13	6:00-10:30 pm	P-209
CS-450	A	Data Base Management Systems Design	S	11/6-1/15	8:30 am-1:00 pm	P-106

COURSES BEGINNING JANUARY 17, 1983

COURSE NO.	SEC	COURSE TITLE	DAY	DATES	TIME	LOCATION
CS-335	A	Assemblers & Assembly Language Programming	M	1/17-3/14	6:00-10:30 pm	
CS-460	A	Systems Programming	M	1/17-3/14	6:00-10:30 pm	
PHY-310	A	Modern Physics	M	1/17-3/14	6:00-10:30 pm	
CS-170	A	Computer Programming I	T	1/18-3/15	6:00-10:30 pm	
CS-360	A	Computer Architecture	T	1/18-3/15	6:00-10:30 pm	
EE-210	A	Networks I	T	1/18-3/15	6:00-10:30 pm	
EE-410	A	Electromagnetic Theory	T	1/18-3/15	6:00-10:30 pm	
CS-200	A	Computer Programming II	W	1/19-3/16	6:00-10:30 pm	
MAT-220	A	Calculus II	W	1/19-3/16	6:00-10:30 pm	
MAT-310	A	Differential Equations	W	1/19-3/16	6:00-10:30 pm	
MAT-360	A	Matrices and Statistics	W	1/19-3/16	6:00-10:30 pm	
MAT-150	A	Precalculus	W	1/19-3/16	6:00-10:30 pm	
CS-150	A	Intro. to Computer Organization	Th	1/20-3/17	6:00-10:30 pm	
CS-220	A	Cobol	Th	1/20-3/17	6:00-10:30 pm	
CS-240	A	Digital Design	Th	1/20-3/17	6:00-10:30 pm	
EE-400	A	Electronics III	Th	1/20-3/17	6:00-10:30 pm	
EE-450	A	Control Systems	Th	1/20-3/17	6:00-10:30 pm	
CS-340	A	Data Structures	S	1/22-3/19	8:30 am-1:00 pm	

Course Descriptions

CS-160 Fundamentals of Logic Design (Formerly called Digital Systems)
An introduction to elementary digital logic circuits, Boolean algebra, Karnaugh maps, digital counters, other basic circuit elements. Number set modules, binary, octal and hexadecimal number systems are investigated and related to digital computing structures. **Prerequisite: demonstrated competency equivalent to MAT 102.**

CS-170 Computer Programming I
An introduction to good programming techniques including flowcharting, 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. **Prerequisite: demonstrated competency equivalent to MAT 102.**

CS-200 Computer Programming II
Continuation of Computer Programming I including introduction to random and sequential files, program design, modular design, structured programming, large programming design, documentation. **Prerequisite: Computer Programming I.**

CS-210 FORTRAN
Introduction to the language FORTRAN with reference to the latest standards, special techniques for programming in FORTRAN. **Prerequisite: Computer Programming II, demonstrated competency equivalent to MAT 102.**

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 II and FORTRAN.**

CS-350 Computer Circuit Design
Design of combinational and sequential digital circuits, programmable logic design, and firmware design. **Prerequisite: Digital Design.**

CS-370 Software Design
Algorithm analysis, software design, management of large software projects, functional specification, design and testing phase of large scale projects, quality control. **Prerequisite: PASCAL.**

CS-410 System Design & Analysis
Advanced topics in design of digital computer systems and components. **Prerequisite: Computer Architecture.**

CS-450 Data Base Management Systems Design
Concepts and structures necessary to design and implement a database management system, including physical file organization and data organization techniques, data models, networks, data integrity and file security. **Prerequisite: Data Structures, COBOL.**

CS-480 Introduction to Compilers and Interpreters
An introduction to compiler/interpreter design. Topics include lexical analysis, parsing, intermediate code, final code generation, optimization, and error recovery. **Prerequisite: Organization of Programming Languages.**

EE-255 Electricity Laboratory
Basic laboratory to complement Networks theory courses.

EE-330 Electronics I
Physical theory and analysis of semi-conductor properties, circuits containing non-linear elements, semi-conductor diodes, zener diodes, conducton in semi-conductors, transistor characteristics, large system signal analysis, small models, single-stage amplifiers. **Prerequisite: Networks I.**

EE-335 Electronics Lab I—(1 cr.)
Laboratory work to complement electronics theory course. **Prerequisite: Electronics I.**

EE-345 Electronics II Lab—(1 cr.)
Lab work to complement electronics theory course. **Prerequisite: Electronics I Lab, Electronics II.**

SUMMARY OF PROGRAM REQUIREMENTS

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

EE	CS	MATH	SYS	SYS/TC		
x	x	x	x	x		Communications (3 cr.) (Lan. 111)
x	x	x	x	x		Communications (3 cr.) (Lan. 112 or Tec. 330)
x	x	x	x	x		Social Science/Behavioral Science (12 cr.)
x	x	x	x	x		Humanities (6 cr.)
	x		x	x	MAT-150	Precalculus
x	x	x	x	x	MAT-210	Calculus I
x	x	x			MAT-220	Calculus II
x		x			MAT-305	Calculus III
x		x			MAT-310	Differential Equations
		x			MAT-320	Advanced Calculus
a	a				MAT-360	Matrices & Statistics
a	a	x			MAT-420	Linear Algebra
		x			MAT-430	Fns. of a Complex Variable
x	x	x			MAT-440	Numerical Analysis
a	a	x			MAT-450	Probability & Statistics
x	x	x			PHY-140	Physics I
x	x	x			PHY-150	Physics II
x	x	x			PHY-160	Physics III
x	x	x			PHY-212	Science of Matter or Chemistry
x		x			PHY-310	Modern Physics
			x	x		Physical or/Life Science (9 cr.)
			x	x	CS-150	Introduction to Computer Organization
x	x	x			CS-160	Fundamentals of Logic Design
x	x	x	x	x	CS-170	Computer Programming I
x	x	x	x	x	CS-200	Computer Programming II
x	x	x	x	x	CS-210	Fortran
	x	x	x	x	CS-220	Business Oriented Language (COBOL)
x	x	x			CS-240	Digital Design
	x	x	x	x	CS-320	Organization of Programming Languages
	x	x	x	x	CS-330	Structured Programming (PASCAL)
	x	x	x	x	CS-335	Assemblers & Assembly Language Programming
	x	x	x	x	CS-340	Data Structures
x	x				CS-350	Computer Circuit Design
x	x				CS-360	Computer Architecture
	x	x	x	x	CS-370	Software Design
					CS-401	Organization of the Computer Environment
x	x				CS-410	System Design & Analysis
	b		a		CS-420	Operating System Concepts
					CS-430	Simulation & Modeling
					CS-440	Microcomputers
	b		x		CS-450	Data Base Management Systems Design
	x		x	x	CS-460	System Programming
			a		CS-470	Information Systems Analysis and Design
	b		a		CS-480	Introduction to Compilers & Interpreters
					CS-485	Theory of Computation
					CS-490	Directed Project in Computer Science
x	x				EE-210	Networks I
x					EE-255	Electricity Laboratory (1 cr.)
x					EE-310	Networks II
x	x				EE-330	Electronics I
x					EE-335	Electronics Lab I (1 cr.)
x					EE-340	Electronics II
x					EE-345	Electronics Lab II (1 cr.)
x					EE-400	Electronics III
x					EE-405	Networks III
x					EE-410	Electromagnetic Theory
x					EE-420	Field Transmission Lines
x					EE-430	Fund. of Communication Systems
x					EE-440	Energy Systems
x					EE-450	Control Systems
x					EE-460	Micro-electronics
x					EE-470	Elect. Eng. Design
x				x	ES-220	Engineering Drawing
x					ES-310	Engineering Applications of Materials
					ES-320	Industrial Planning
					ES-330	Statics
					ES-340	Dynamics
					ES-390	Thermodynamics
				x	TEC-320	Technical Communication
				x	TEC-330	Technical Writing
				x	TEC-350	Production of Technical Communication Materials
				x	TEC-370	Technical Documentation I
				x	TEC-380	Technical Documentation II
				x	TEC-450	Legal Aspects of Technical Communication
				x	TEC-460	Technical Communication Project Management
				x	TEC-470	Seminar in Technical Communication
9	12	15	12	12		Electives (in credits)
			x			30 credits in Approved Discipline
		6		9		Electives in CS and EE

PROGRAM REQUIREMENTS		DEGREE CODE
B.S. Electrical Engineering (EE)	138 credits	460
B.S. Computer Science (CS)	120 credits	463
B.S. Computer Systems (SYS)	120 credits	464
B.S. Computer Systems/Technical Communications (SYS/TC)	120 credits	464
B.S. Mathematics	120 credits	462

a = Choose 1 "a" Course

b = Choose 2 "b" Courses

Nova University
3301 College Avenue
Fort Lauderdale, FL 33314

ELECTRICAL ENGINEERING
COMPUTER SCIENCE
COMPUTER SYSTEMS
MATHMETICS

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, design problems in energy systems. **Prerequisite: Physics I, Physics II, Physics III, Networks II and Electronics I.**

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-440 Numerical Analysis
Solution of algebraic and transcendental equations by a number of iterative methods including discussion of convergence considerations, probability and statistical theory, numerical integrator of a number of types of problems will be discussed both in theory and in practice through the use of computer problem-solving. **Prerequisite: Calculus II and some competency in Computer Programming.**

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: Calculus I.**

SEE CATALOG FOR JANUARY COURSE DESCRIPTIONS

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 program office 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

How to Withdraw

After the third class meeting, a student may withdraw from a course by completing a "Withdrawal Form" available in the Registrar's Office. This form must be approved by the instructor and academic office. It is the student's responsibility to return the completed form to the Registrar's Office.

LAST DAY TO WITHDRAW: Dec. 10

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".

FINANCIAL AID

Nova University participates in various governmental financial aid programs for the benefit of its students.
For information call: 475-7410