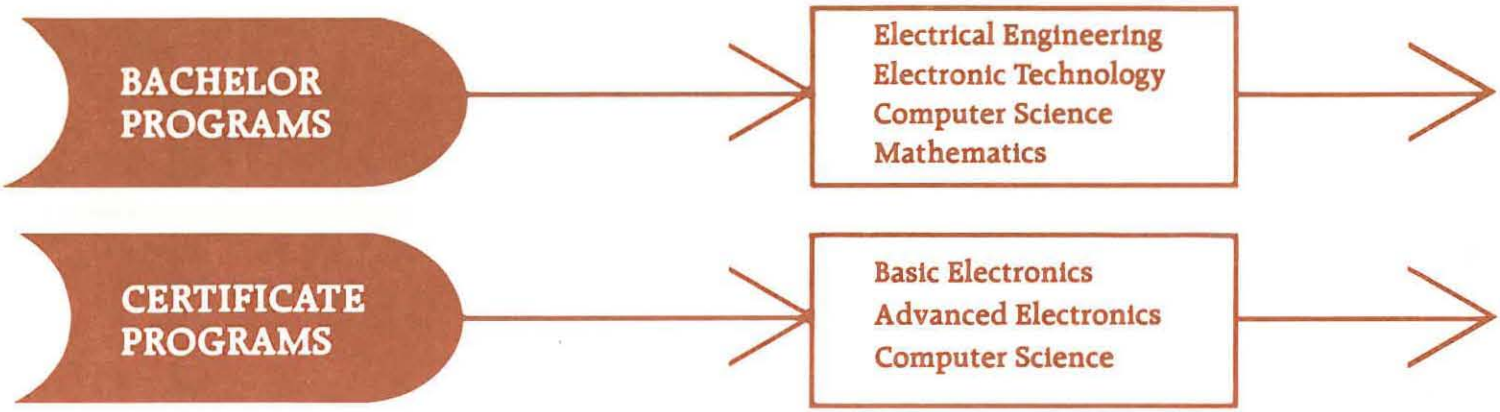
1981

Bachelor of Science and Engineering Course Descriptions

Nova Southeastern University

NOVA COLLEGE
The Corporate Division



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 Dec. 19)	$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

Please mail to:

Dr. Anna Mae Walsh Burke, Director
Nova College: The Corporate Division
Nova University
3301 College Avenue
Ft. Lauderdale, FL 33314

Please send information on Corporate Division Programs:

_____ Electrical Engineering
_____ Electronic Technology
_____ Computer Science
_____ Computer Systems
_____ Other

NAME _____ HOME PHONE _____

ADDRESS _____ EMPLOYER _____

_____ BUSINESS PHONE _____

(City) (State) (Zip)

(THIS IS NOT A REGISTRATION FORM)

COURSES BEGINNING JANUARY 5, 1981

COURSE NO.	SEC.	DESCRIPTION	DAY	TIME	PARKER ROOM
CS 160	B	Digital Systems	TH	8:30-1:00	208
CS 160	A	Digital Systems	TH	6:00-10:30	208
CS 170	B	Computer Programming I	T	8:30-1:00	208
CS 170	A	Computer Programming I	T	6:00-10:30	208
CS 210	A	Fortran	Thurs ~~W~~	6:00-10:30	~~208~~ ~~210~~ 214
CS 340	A	Introduction to File Processing	T	6:00-10:30	130
EE 410	A	Electromagnetic Theory	W	6:00-10:30	209
ETR 130	A	Electronics Lab I	M	6:00-10:30	3rd Floor
ETR 250	A	Networks II	T	6:00-10:30	213
ETR 320	A	Electronics III	S	8:30-1:00	Coral Springs
MAT 210	A	Calculus I	S	8:30-1:00	Coral Springs
MAT 230	A	Calculus III	TH	6:00-10:30	209
PHY 150	A	Physics II	W	6:00-10:30	107
PHY 210	A	Modern Physics	M	6:00-10:30	208

COURSE DESCRIPTIONS

CS-160 Digital Systems
History of computer technology, functions of operating systems, data representation, central processing system, the control unit, input/output devices, storage devices, octal and hexodecimal numbers. Boolean algebra, gates, concepts of machine languages, assembly languages.

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.

CS-210 Fortran
Introduction to the language Fortran with reference to the latest standards, special techniques for programming in Fortran.

CS 340 Introduction To File Processing
An introduction to the concepts and techniques of structuring data on bulk storage devices, applications of data structures and file processing, arrays, records, strings, lists, trees, stacks. Manipulations and limitations of files. **Prerequisite: Some programming courses.**

EE-410 Electromagnetic Theory
Fundamentals of static electric and magnetic fields, electro-quasi-statics potential and voltage, charge singularities, boundary conditions, as well as Maxwell's equations in cartesian, spherical and cylindrical coordinates subject to given boundary conditions, Ampere's law, Gauss' law, electric and magnetic functions. **Prerequisite: Physics II, Calculus III**

ETR-130 Electronics Lab I - (1 cr.)
Lab work to complement electronics theory course. **Prerequisite: Networks I, or Circuit Theory I and Circuit Theory II, and Electronics I**

ETR 250 Networks II
A.C. circuit theory, capacitance, inductance, source free RL & RC circuits, application of unit step forcing function, RLC circuits, sinusoidal analysis, phasor sinusoidal steady state response. Polyphase circuits, average power and RMS power. **Prerequisite: Calculus I.**

ETR-320 Electronics III
Passive and wave-shaping circuits; logic circuits, multi-vibrators and blocking oscillators; investigation of limitations, advantages and methods employed in integrated circuit technology. A strong use of mathematics to solve a number of problems in electronics analysis course. Fourier & Laplace transforms. **Prerequisite: Calculus II & Electronics II**

SUMMARY OF PROGRAM REQUIREMENTS

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

EE	ET	CS	MATH	SYS	BEC	AEC		
x	x	x	x	x	x			Communications (3 cr.)
x	x	x	x	x				Communications (3 cr.)
x	x	x	x	x				Social Science (3 cr.)
x	x	x	x	x				Social Science (3 cr.)
x	x	x	x	x				Humanities (3 cr.)
x	x	x	x	x				Humanities (3 cr.)
x	x	x	x	x				Behavioral Science (3 cr.)
x	x	x	x	x				Behavioral Science (3 cr.)
	x						MAT-140	Technical Mathematics
	x	x		x	x		MAT-150	College Mathematics
x	x	x	x	x			MAT-210	Calculus I
x		x	x				MAT-220	Calculus II
x			x				MAT-230	Calculus III
x			x				MAT-310	Differential Equations
x			x				MAT-320	Advanced Calculus
x		x	x				MAT-420	Linear Algebra
			x				MAT-430	Fns. of a Complex Variable
		x	x				MAT-440	Numerical Analysis
x			x				MAT-450	Probability & Statistics
x	x	x	x	x		x	PHY-140	Physics I
x	x	x	x	x		x	PHY-150	Physics II
x	x	x	x	x			PHY-160	Physics III
x	x	x	x				PHY-210	Modern Physics
x	x	x	x				PHY-212	Science of Matter or Chemistry
x	x	x	x	x	x		CS-160	Digital Systems
x	x	x	x	x	x		CS-170	Computer Programming I
x	x	x	x	x		x	CS-210	Fortran
		x	x	x			CS-220	Business Oriented Language (COBOL)
		x	x				CS-230	Structured Programming
x	x	x	x			x	CS-240	Digital Design
x		x	x	x			CS-255	Computer Programming II
		x	x				CS-310	Programming Techniques
		x	x	x			CS-320	Organization of Programming Languages
		x	x	x			CS-340	Introduction to File Processing
x	x	x				x	CS-350	Computer Circuit Design
x	x	x					CS-360	Computer Architecture
		x					CS-410	System Design & Analysis
		x		x			CS-420	Operating System Concepts
							CS-430	Simulation & Modeling
							CS-440	Microcomputers
				x			CS-450	Data Base Management Systems Design
				x			CS-460	Assemblers and System Programming
				x			CS-470	Information Systems Analysis and Design
x	x	x			x		ETR-110	Networks I
x	x	x			x		ETR-120	Electronics I
x	x				x		ETR-130	Electronics Lab I (1 cr.)
x	x				x		ETR-220	Electronics II
x	x				x		ETR-230	Electronics Lab II (1 cr.)
x	x					x	ETR-250	Networks II
x	x				x		ETR-255	Electricity Laboratory (1 cr.)
x							ETR-320	Electronics III
x							ETR-430	Networks III
x							EE-410	Electromagnetic Theory
x							EE-420	Field Transmission Lines
x							EE-430	Fund. of Communication Systems
x	x						EE-440	Energy Systems
x							EE-450	Control Systems
x							EE-460	Micro-electronics
x							EE-470	Elect. Eng. Analysis/Design
	x				x		MT-220	Principles of Technology
x	x					x	MT-320	Engineering Drawing (2 cr.)
	x						MT-330	Industrial Planning
	x						MT-350	Fund. of Control System Technology
x	x						MT-380	Strength of Materials (4 cr.)
	x				x		ET-210	Instrumentation I
	x					x	ET-310	Instrumentation II
	x					x	ET-410	Electronic Technology
	x					x	ET-420	Fund. of Communication Technology
x	x	x	x	x				Electives (in credits)
				x				30 credits in Business

PROGRAM REQUIREMENTS		DEGREE CODE
B.S. Electrical Engineering (EE)	138 credits	460
B.S. Computer Science (CS)	120 credits	463
B.S. Computer Science with a Business Systems Option	120 credits	463
B.S. Electronic Technology (ET)	120 credits	461
Basic Electronic Cert. (BEC)	30 credits	360
Advanced Electronic Cert. (AEC)	30 credits	361
Computer Science Cert. Individualized	30 credits	363

100 level are beginning courses
200 and 300 level are intermediate courses
400 level are advanced courses

NOVA UNIVERSITY
3301 College Avenue
Fort Lauderdale, FL 33314

ELECTRICAL ENGINEERING
ELECTRONIC TECHNOLOGY
COMPUTER SCIENCE
MATHEMATICS

Course Descriptions

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-230 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 or Equivalent**

PHY-150 Physics II
Electrostatics, electric currents, electric fields and electric potential, AC and DC circuits, magnetic fields, capacitance, inductance and electromagnetic waves. **Prerequisite or Co-requisite Calculus I**

PHY-210 Modern Physics
An introduction to modern concepts of physics including atomic structure and microscopic structure of matter, quantum mechanics, elementary particles, special relativity, wave particle duality, statistical physics, X-rays, molecular binding, nuclear physics, including nuclear structure. **Prerequisite: Physics I, II, III, 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.

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 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.

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

For Information Call: 475-7340

FINANCIAL AID

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

For information call: 475-7410

NOVA UNIVERSITY
3301 College Avenue
Fort Lauderdale, FL 33314

ELECTRICAL ENGINEERING
ELECTRONIC TECHNOLOGY
COMPUTER SCIENCE
MATHEMATICS

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'Hopital'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

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 or academic counselor on the withdrawal form. You are expected to attend all classes and may be administratively