



The IEEE

# Newsletter

PUBLICATION OF THE NORTH JERSEY SECTION OF THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS

## IEEE And The CEU

*The following is a summary of a presentation on the Continuing Education Unit at a North Jersey Section meeting a few weeks ago by Dr. Robert Kahrman, Manager, IEEE Videoconferences.*

The continuing Education Unit, or the CEU, is a way to record, measure and report non-credit educational experiences. It is defined as "One Continuing Education Unit (CEU) is ten contact hours of participation in an organized continuing education experience under responsible sponsorship, capable direction, and qualified instruction."

There are several reasons for the value of the CEU. They are:

- Permanent records are established to demonstrate continued learning.
- A uniform system provides for a way to measure data locally and nationally.
- Documentation is available for renewing a license, a certification or a registration in a profession.
- To record preparation for a new field, career, etc. to deal with technological obsolescence.
- To demonstrate an effort toward personal and professional growth.

Among those who are able to award CEU's are colleges, technical institutes, vocation-technical schools, trade and industries associations, professional societies, governmental agencies, etc. Providers of CEU's must be listed as qualified and have to meet administrative and program criteria.

Program criteria includes organization, responsibility and control, a permanent system for awarding and maintaining records, and adequate facilities. The program criteria includes the listing of needs of an audience, listed learning outcomes, qualified instruction, recorded content and methodology, a list of requirements, and a measure of learning outcomes.

Activities that do not meet the CEU criteria include memberships in a group, committee meetings, college credit courses, entertainment and recreation, high school equivalency, individual scholarship, instructing a CEU program, unsupervised study, and on-the-job training.

There are a variety of activities that can qualify and the IEEE is looking into becoming a records site for Sections in order for the Sections to run CEU programs and have a central repository for permanent records.

## North Jersey Section Activities AUGUST

**Aug. 4, 1993**—"North Jersey Section Executive Committee Meeting"—7:00 PM, Plant 11, GEC-Marconi, 164 Totowa Rd., Totowa, N.J. Art Greenberg (201) 633-6129.

**Aug. 12**—"How To Start And Manage Your Own Small Business—Session Two"—North Jersey Section PACE, 7:30 PM, JCP&L Co., 300 Madison Ave., Morristown, N.J. Robert Sinusas (201) 228-3941.

**Aug. 13-14**—"1993 IEEE Regional Conference On Control Systems"—IEEE Control Systems Soc., NJIT, Newark, N.J. Professor Timothy Chang (201) 596-3519.

### Upcoming Meetings

**Sept. 1**—"North Jersey Section Executive Committee Meeting"—7:00 PM, Plant 11, GEC-Marconi, 164 Totowa Rd., Totowa, N.J. Art Greenberg (201) 633-6129.

**Sept. 9**—"Solutions For The Sandwich Generation"—North Jersey Section PACE, 7:30 PM, JCP&L Co., 300 Madison Ave., Morristown, N.J. Robert Sinusas (201) 228-3941.

**Sept. 28-Dec. 7**—"Seminar: Object-Oriented C++ Programming"—IEEE North Jersey Section, Tuesday Sessions, 6:30-9 PM, JCP&L, 300 Madison Ave., Morristown, N.J. John Baka (201) 455-8534.

**Sept. 29-Dec. 8**—"Seminar: Introductory C Programming"—IEEE North Jersey Section, Wednesday Sessions, 6:30-9 PM, JCP&L, 300 Madison Ave., Morristown, N.J. John Baka (201) 455-8534.

**Sept. 30**—"Videoconference"—North Jersey Section. Details next issue.

**Sept. 30-Dec. 9**—"Seminar: Object-Oriented C++ Programming"—IEEE North Jersey Section, Thursday Sessions, 6:30-9 PM, JCP&L, 300 Madison Ave., Morristown, N.J. John Baka (201) 455-8534.

**Oct. 22**—RESERVE FOR SECTION AWARDS RECEPTION

**Oct 28**—"2020 Vision: The Future of Engineering Technology Videoconference"—North Jersey Section. Watch for details.

## Members and Non-Members Welcome PLEASE POST

**AUGUST, 1993**  
**Volume 40, Number 2**

# AUGUST, 1993

## Volume 40 Number 2

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### NEWSLETTER STAFF

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Business Manager.....A.M. Beattie

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(908) 981-0060

It is not necessary to inform the North Jersey Section when you change your mailing address. The NEWSLETTER and other section mailings use a list provided by IEEE's national headquarters in New York. This means the Section has no need to maintain a mailing list or addressing plates. Section membership records are changed when Headquarters notifies us.

### SECTION OFFICERS

Chairman.....M.I. Liechenstein  
471-0721  
Vice-Chairman-1.....Tom De Nigris  
533-9325  
Vice-Chairman-2.....Sergei Bogaenko  
785-3673  
Treasurer.....Al Connelly  
616-0755  
Secretary.....Art Greenberg  
633-6129  
Member-at-Large.....Al Bottani  
Member-at-Large.....Joe Nelson  
Member-At-Large.....Vittal Rebbapragada  
Jr. Past Chairman.....Richard V. Snyder

**The North Jersey Section Executive Committee usually meets the first Wednesday (except holidays and December) of each month at 7 PM. These meetings are open to all members. Information on meeting agenda is available from Art Greenberg, Section Secretary at 633-6129**

**Elected Section Officers are listed above.**

## North Jersey Section PACE: Solutions For The Sandwich Generation

At the September 9, 1993, meeting of the North Jersey Section's Professional Activities Committee for Engineers the topic will be "Solutions For The Sandwich Generation." The speaker will be Ed Landau, Financial Planner with IDS Financial Services, an American Express Company.

### About The Talk

This one-hour, video-driven seminar is targeted to people who may find themselves sandwiched between their parents' and children's financial con-

cerns, while trying to address their own financial needs for today and the future.

### About The Speaker

Mr. Landau is a financial planner licensed by the National Association of Securities Dealers in addition to holding NJ Insurance and Securities licenses. Before becoming a financial planner, Mr. Landau spent over twenty years as an RF Design Engineer, Consultant and Engineering Manager.

All IEEE members and guests are invited to attend.

Time: 7:30 PM, Thursday, September 9, 1993.

Place: JCP&L Co., 300 Madison Ave., Punch Bowl Room, Morristown, N.J.

Further Information: Robert Sinusas (201) 228-3941.

### ANNOUNCING...

## 1993 IEEE REGIONAL CONFERENCE ON CONTROL SYSTEMS

August 13-14, 1993

AT

## NEW JERSEY INSTITUTE OF TECHNOLOGY

NEWARK, NJ 07102

*Sponsored by the IEEE Control Systems Society*

In cooperation with:

IEEE North Jersey Section ASME North Jersey Section  
AIAA Northern New Jersey Section

- Easy access by auto or public transportation
- Printed conference proceedings • Free secure parking
- Complimentary wine and cheese reception

Registration Fees	Advance	On-Site
Members	\$50	\$70
Students	\$20	\$30

### PLENARY LECTURES ON:

- New applications of control technology
- Intelligent vehicle-highway systems (IVHS)

### TECHNICAL PAPERS ON:

- Real-time control • Pattern recognition and image processing • IVHS
- Linear systems • Discrete event systems • Robotics
- Adaptive control and parameter estimation • Aerospace applications

For further information, advance program, and registration form, please contact:

Professor Timothy Chang  
General Chairman  
Department of Electrical & Computer Engineering  
New Jersey Institute of Technology  
Newark, NJ 07102  
(Phone): (201) 596-3519; (FAX): (201) 596-5680  
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OR

Professor Chia-Chi Tsui  
Registration Chairman  
Department of Applied Sciences  
CUNY College of Staten Island  
Staten Island, NY 10301  
(Phone): (718) 390-7972



# LEGISLATIVE ALERT IEEE-USA

July 1, 1993

## LABOR MARKET INFORMATION PILOT PROGRAM

### Secretary Reich Yells "Uncle!" - Judiciary Committees Need a Nudge

After reviewing hundreds of "overwhelmingly adverse comments," Labor Secretary Robert Reich is apparently trying to pull the plug on a controversial labor market information pilot program that characterized chemical, compute software, materials and mechanical engineering as shortage occupations in several states. In a May 14th letter to Senators Joseph R. Biden (D-DE), Edward M. Kennedy (D-MA) and Alan K. Simpson (R-WY) and Representatives Jack Brooks (D-TX) and Romano Mazzoli (D-KY), the Secretary requested that the statutory requirement for a Labor Market Information Pilot Project be removed from the Immigration Act of 1990.

Reich cited changed economic circumstances, including increased unemployment in highly technical fields, as the primary justification for his request to key members of the Senate and House Judiciary Committees. "It has become readily apparent that such a project may adversely affect U.S. workers employed or seeking employment in highly skilled occupations," he said. "This amendment (to the Immigration Act) eliminating the labor market pilot project will provide proper protection and increased employment opportunities for U.S. workers," the Labor Secretary added.

### Congress May or May Not Accede to the Secretary's Request

Despite Secretary Reich's request that Congress repeal the legislative mandate for the LMI program, the controversial project isn't dead yet.

Staff members at the House and Senate Judiciary Committees (the Congressional committees with legislative jurisdiction over immigration matters) suggest three possible scenarios. Congress could amend the Immigration Act as Secretary Reich has requested; the Judiciary Committees could recommend that the Department modify the focus or methodology for the LMI program; or the Department could simply report that employment conditions do not justify any changes in foreign labor certification requirements.

### IEEE-USA Supports the Secretary of Labor's Request

In a strongly worded letter of his own dated July 1, 1993, IEEE Vice President for Professional Activities, Charles K. Alexander urged Members of the House and Senate Judiciary Committees to "support the introduction of legislation to repeal or amend the statutory requirement that the Secretary of Labor establish a Labor Market Information Pilot Program and delay further implementation of related

rulemaking by the Department of Labor until such time as Congress can thoroughly review the matter at hearings and develop appropriate legislative recommendations."

Alexander cited the many comments that were submitted to the Labor Department by organizations representing engineers and scientists; by public and private employers of professional and technical personnel; by Federal and state agencies that administer the nation's immigration laws; and by individual citizens who have been displaced by recent downsizings in high technology industries in support of IEEE-USA's recommendations.

### \*\*\*How IEEE's U.S. Members Can Help\*\*\*

IEEE's U.S. members are encouraged to communicate their personal support for Congressional Action to end the LMI Pilot Program by writing to key Members of the House and Senate Judiciary Committees as soon as possible. IEEE members can help by sending a brief letter asking that the legislative mandate for the Labor Market Pilot Program be repealed or amended to one or more of the following legislators:

### House Committee on the Judiciary

Subcommittee on International Law, Immigration and Refugees

Romano L. Mazzoli (D-KY), Charles E. Schumer (D-NY), John Bryant (D-TX), George E. Sangmeister (D-IL), Jerrold Nadler (D-NY), Xaviera Beccera (D-CA); Bill McCollum (R-FL), Lamar Smith (R-TX), Elton Gallegly (R-CA) and Charles T. Canady (R-FL)

### Address your letter to:

Representative \_\_\_\_\_, United States  
House of Representatives, Washington, DC 20515

### Senate Committee on the Judiciary

Subcommittee on Immigration and Refugee Affairs

Edward M. Kennedy (D-MA), Paul Simon (D-IL) and  
Alan K. Simpson (R-WY)

### Address your letter to:

Senator \_\_\_\_\_, United States Senate,  
Washington, DC 20510

If you have questions about IEEE-USA's views on this matter or would like information on how to communicate with members of Congress, contact Vin O'Neill in the IEEE-USA Office by phone (202) 785-0017, Fax (202) 785-0835 or send your E-Mail inquiry via Internet to [v.oneill@ieee.org](mailto:v.oneill@ieee.org).

# IEEE North Jersey Section Seminar

## "Introductory C Programming"

Wednesday Evenings, September 29 - December 8, 1993

6:30-9:00 PM

Jersey Central Power & Light Co.,  
300 Madison Avenue, Morristown, N.J.

The North Jersey Section is offering an evening course entitled "Introductory C Programming." C is one of the most widely used computer programming languages because it is powerful, portable and permissive. It is also the basis for C++, the popular object-oriented programming language. This course will be an introduction to C and will cover all the basics of the language as well as emphasizing C's philosophy or world view. The course will cover ANSI C on the PC but, because there are C compilers for most computers, the expertise will be applicable from PC through mainframe. The C techniques learned will be useful on their own, and also will be a preparation for either an advanced C course or a C++ course. There are plans to offer both in the future.

There will be 8 weekly lectures and each will be followed by a short optional work session. Homework will be assigned and corrected. The topics listed below will be covered. The instructor is Dr. Edward (Ted) Byrne, owner of a local software consultant business.

- (1) - Background of computers, operating systems, compilers and high-level languages.
- (2) - Introduction to C and the parts of a real C program: philosophy of C vs other languages, ANSI vs older C nature and constituents of a simple C program, C program examples (ongoing).
- (3) - Reserved words, variables, declaration and definition, parameters, permanent, temporary, local and global data.
- (4) - Branching: simple and compound statements, relational operators and expressions and their use in branching, various kinds of branch statements.
- (5) - Loops and Conditions: various ways to enter and exit a loop, auto-incrementing, statement labels, goto.
- (6) - Formatted and character I/O: output to screen, input from keyboard, formatting, file and device input and output.
- (7) - Defensive programming and debugging: debugging levels, asserts, lint, case tools.
- (8) - Functions, subfunctions and arguments: names, arguments, return value, main program arguments, exit, return levels.
- (9) - Text and Libraries: character data type, string data type, characteristics of strings, libraries, and header files, #include statement, common functions, #define.
- (10) - Groups of similar and dissimilar data items: arrays, structures, indexing, items.
- (11) - Introduction to pointers: concept of a pointer, addresses, pointer arithmetic, indirection.
- (12) - Introduction to some advanced topics in C: touch on graphics, unions and enums, casts, typedefs, bit variables and operators, switch statement and case and default, conditional assignment.

Class Size will be limited to a maximum of 25 with a minimum registration of 15. Early registration is recommended. Phone Reservations will **not** be accepted. Reservations accepted after September 15, 1993 will require an additional **late fee** of \$25. No reservations will be accepted after September 22, 1993.

**Where:** Jersey Central Power & Light Co., 300 Madison Avenue, Morristown, N.J.  
**When:** Eight sessions, Wednesday evenings, starting September 29, 1993 from 6:30 PM to 9:00 PM.  
**Cost:** With Text Books and QuickC compiler, IEEE Members \$275; non-IEEE Members \$350.  
With Text Books only, IEEE Members \$ 200; Non-IEEE Members \$275.  
**Contact:** Mr. John A. Baka at (201) 455-8534 (Business)

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### Registration "Introductory C Programming"

To: Mr. John Baka, Distribution Engineering, JCP&L Company, 300 Madison Avenue, Morristown, NJ 07962-1911

Name \_\_\_\_\_ IEEE No. \_\_\_\_\_

Affiliation \_\_\_\_\_ Phone No. \_\_\_\_\_

Address \_\_\_\_\_

Check if QuickC Compiler is needed or not Yes [ ] No [ ]  
Enclose required fee made payable to "North Jersey Section IEEE"

Signature \_\_\_\_\_

North Jersey Section IEEE  
**Professional Activities Committees for Engineers**  
**Seminar**  
**How To Start And Manage**  
**Your Own Small Business**

Jersey Central Power & Light Co.,  
300 Madison Avenue, Morristown, N.J.

The North Jersey Section of PACE will present the second of a two-session evening program on starting and managing your own small business.

The seminar will be presented by members of the Clifton branch of SCORE (Service Corps of Retired Executives) Chapter 24. Presenters will include William Fockler, Branch Administrator, Henry Egen, Aaron Frank and Robert Young.

**Session Two**

**Thursday, August 12, 1993, 7:30 PM**

**4. FINANCES**

- (a) Record Keeping (b) Accounting  
(c) Bank Accounts (d) Taxes (e) Insurance

**5. BUSINESS PLAN**

- (a) Why is it needed? (b) Detailed Review of Outline

**6. FINANCING THE BUSINESS**

- (a) Banks and SBA (b) Friends and Relatives (c) Stock  
(d) Home equity (e) Venture Capital

All IEEE members and guests are invited to attend.

**Time:** 7:30 PM, Thursday, August 12, 1993.

**Place:** JCP&L Co., 300 Madison Ave., Punch Bowl Room, Morristown, N.J.

**Further Information:** Robert Sinusas (201) 228-3941.



**Congratulations**  
**New**  
**Senior Members**

Ewa Herbst  
Steven A. Janes  
G. Edward Johnson  
Kenneth J. Kerpez  
Larry O'Gorman  
Jesse E. Russell  
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# IEEE North Jersey Section Seminar Object-Oriented C++ Programming

Tuesdays, September 28 - December 7, 1993  
& Thursdays September 30 - December 9, 1993 6:30-9:00 PM  
Jersey Central Power & Light Co., 300 Madison Avenue, Morristown, N.J.

The North Jersey Section is offering an evening course entitled "Object-Oriented C++ Programming." Object-Oriented programming has been described as the biggest advance in computer programming since the creation of higher level languages 30 years ago. Instead of focusing on functionality (what the programs do) it focuses on the natural objects comprising the problem and how they, and their capabilities, are modeled in the program. C++ is, by far, the most widely used language today for object-oriented design and programming. This course will cover both the concepts of OOD and their implementation in C++ code. The course will begin with a review of common aspects of C and C++ but this time will be too brief to learn C. **THEREFORE ONLY THOSE WHO ARE FAMILIAR WITH C SHOULD REGISTER FOR THE C++ COURSE.**

There will be 9 weekly lectures and homework will be assigned and corrected. The topics listed below will be covered. The instructors are Dr. Edward (Ted) Byrne, owner of a software consultant business, and Dr. Donald Hsu, Professor of Business Administration at Dominican College, Orangeburg, NY.

- (1) - Review common elements of C and C++: punctuation and keywords, variable naming, typing and scope, functions and subfunctions, arguments, operators and assignments, conditionals and logical variables, looping and testing, handling text strings, arrays and structures, pointers.
- (2) - Concept of Object-Orientation: objects and classes of objects, methods and messages, encapsulation and abstraction, overloading of functions and operators, inheritance and polymorphism.
- (3) - C++ improvements to C: new commands and operators, comments, stream I/O, function prototypes, more explicit typing and linking.
- (4) - C++ implementation of objects: what is a C++ object, data and method functions within an object, public, private and friend, static and dynamic objects, constructors and destructors.
- (5) - Encapsulation and abstraction within C++ objects: references and aliases, scope control operator, 'this' object, overloading, functions, operators.
- (6) - Inheritance and polymorphism among C++ objects: parent class or object, extending classes, redefining object data and methods, multiple inheritance, templates.
- (7) - C++ I/O streams: standard I/O, formatted I/O with manipulators, disk and device I/O.
- (8) - C++ library classes and their use: characteristics of a good library class, conversion base classes, video base classes, window base classes, database base classes.
- (9) - Overall program structure with C++ objects: how to lay out a C++ program, how to reuse classes in a program, how to test and evolve a C++ program, how to find errors and debug C++ object programs.
- (10) - Object-Oriented design methodologies: Booch method, Coad Yourdon Nicola method, Shlaer Mellor method.

The Tuesday class size will be limited to a maximum of 25 with a minimum registration of 15. The Thursday class will be limited to a maximum of 20 with a minimum registration of 15. Early registration is recommended. Phone Reservations will **not** be accepted. Reservations accepted after September 15, 1993 will require an additional **late fee** of \$25. No reservations will be accepted after September 22, 1993.

**Where:** Jersey Central Power & Light Co., 300 Madison Avenue, Morristown, N.J.  
**When:** Nine sessions, Tuesday and Thursday evenings, starting September 28, 1993 from 6:30 PM to 9:00 PM.  
**Cost:** With Text Books and Borland Turbo C++ Compiler, IEEE Members \$280; non-IEEE Members \$360.  
With Text Books only, IEEE Members \$200; Non-IEEE Members \$280.  
**Contact:** Mr. John A. Baka at (201) 455-8534 (Business)

## Registration "Object-Oriented C++ Programming"

To: Mr. John Baka, Distribution Engineering, JCP&L Company, 300 Madison Avenue, Morristown, NJ 07962-1911

Name \_\_\_\_\_ IEEE No. \_\_\_\_\_  
Course Choice: Tuesday Evening \_\_\_\_\_ Thursday Evening \_\_\_\_\_  
Affiliation \_\_\_\_\_ Phone No. \_\_\_\_\_  
Address \_\_\_\_\_

Check if Borland Turbo C++ Compiler is needed or not Yes [ ] No [ ]

Signature \_\_\_\_\_

Enclose required fee made payable to "North Jersey Section IEEE"