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. Seven lectures will be held on Tuesday while the other lectures will be held at the discretion of the class to complete the course by July 1, 1994. The topics listed below will be covered. The instructor is Dr. Edward (Ted) Byrne, owner of a software consultant business.

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-Oriented: 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, defining 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 debug a C++ program, how to find errors and debug C++ object programs.

Class will be limited to a maximum of 25 with a minimum registration of 15.

Where: Jersey Central Power & Light Co., 300 Madison Avenue, Morristown, N.J.
When: Nine sessions, Tuesday evenings, May 17-28, 1994, 6:30 PM to 9:00 PM.
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. ___________________________
Affiliation _________________________ Phone No. ________________
Address _________________________________

Check if Borland Turbo C++ Compiler is needed or not Yes [ ] No [ ]
Please enclose required fee payable to North Jersey Section IEEE.

Signature ____________________________

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May Highlights

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Helping Unemployed Engineers... p5

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Dear Mr. President. p6

Short Circuiting Short Circuits... p7

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If You Know “C” Here’s The Course For You... p8

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Time/Frequency Technology State-Of-The-Art

On May 3, 1994 the IEEE North Jersey Section MITT-S/AP-S and NJIT will present "Time And Frequency Technology State-Of-The-Art." The speaker will be Hugo Freuhauf.

About The Talk: This presentation will be a technical tutorial especially designed for engineers and scientists as well as operation people, and will offer:

2. Understanding the important oscillator specs: Definitions of the parameters specified; Allan Variance stability measurements; Frequency and time domain; Environmental considerations.
3. Time and time-frequency transfer via GPS and other precision time and frequency signals: Establishment of UTC and GPS time; Available T/F transfer sources; Transfer via GPS to rubidium or quartz flywheels; GPS Selective availability.
4. Applications: Various commercial and military systems.

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About The Speaker: Hugo Freuhauf is the Vice President and General Manager of Ball EFRAOM Time and Frequency Products, in Irvine, California and Ball Alfratom Elektronik GmbH in Hofolding (Munich) Germany. EFRAOM is the leading developer and manufacturer of miniature Rubidium Atomic Oscillators and precision sub-miniatue Quartz Crystal Oscillators. Mr. Freuhauf has been in this function for over 10 years, concentrating on the advancement of navigation and communication systems through the use of atomic oscillators and the Interfacing of the GPS Global Positioning Satellite system for time and frequency.

Prior to EFRAOM, Mr. Freuhauf spent 15 years at Rockwell International involved in satellite systems design. He is the author of "Precision Time and Frequency" handbook, and has written many articles and papers about this subject.

All Welcome Members and guests interested in the subject are invited.

Free Pre-Meeting Buffet: There will be a free pre-meeting buffet for attendees at 6PM courtesy of CDB Enterprises, Inc.

Time: 7:00 PM, Tuesday, May 3, 1994.
Place: NJIT, EEC202, Newark, N.J.
Information/Reservations: Dick Snyder (201) 492-1207, Willy Schmidt (201) 492-0371, Edip Niver (201) 598-3542 (NJIT).
An IEEE Seminar on Short Circuit Analysis
presented by the IAS and PES Chapters, New Jersey Section

Thursday, May 19, 1994, 9:00 AM to 3:00 PM
Jersey Central Power and Light HQ
300 Madison Ave., Morristown, NJ 07962

Topics
- Understanding and applying results
- Interruption evaluation
- Circuit breaker ratings
- Fuse ratings
- Breaker-fuse combinations
- Protection coordination
- Inputs to other studies
- Harmonics
- Motor starting

Case Studies
- Review of key concepts


Speakers
R. Vittal Rebbapragada, P.E., Senior Member, IEEE, Senior Consulting Engineer - Electrical Power Systems, Ebasco Services Division, Raytheon Engineers and Constructors, New York, NY.

Cost - including materials, morning refreshments, and luncheon:
- IEEE members $150.00
- Non-members $195.00
- Students with valid ID $50.00
- All paid attendees will receive a complimentary copy of the IEEE Brown Book.

Registration opens at 8:30 AM

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IEEE NJ Coast Section Computer Chapter
PROFESSIONAL DEVELOPMENT SEMINAR
An Overview of Multimedia Technologies and Services
Dr. A. V. Narasimhan, Tech. Ed. Center, AT&T Bell Labs

ABSTRACT
Multimedia is an emerging and exciting field that requires integration of telecommunication, audio/video technologies, computing hardware and software, and information services. This seminar discusses the concepts of multimedia, why multimedia is becoming a key technology, what are the key applications, and the need for various multimedia component technologies like compression, storage, hardware/software, etc. An overview of architectural requirements for supporting multimedia will be discussed. The new networking technologies such as ATM, wireless LANs, and optical networks used in multimedia systems will be described. The course concludes with a look at future prospects, challenges for multimedia and its potential effect on home entertainment, work environment, communication and computing in the 90s.

Seminar Topics:
- Video conferencing, Information services, Multimedia collaboration, Interactive TV, Multimedia mail, software and databases, Compression (MPEG, JPEG), Communication technologies: Frame Relay, B-ISDN/ATM, and SONET, Multimedia market trends and its future.

Lunch Speaker: Dr. Sid Ahuja, Head, Multimedia communications department, AT&T Bell Labs

TOPIC: Recent advances in Multimedia Communications

DATE: Sept 22, 1994 TIME: 8:30 am - 5pm LOCATION: Ocean Place Hilton, Long Branch, N.J.
REGISTRATION: $150 (non-Mem.), $175 (Mem.) and $125 (students), includes coffee, pastries and lunch.

For Information call/contact:
(1) K. Raghuighthan, 908-472-4202
Fax: 908-577-4537 email: raghuraj@qjd.att.com
(2) N. Natarajan, 908-758-2078 Fax: 908-758-4258 email: nata@cc.bellcore.com
(3) Balas S. Prasanna, Room 1A-310, AT&T Bell Labs, 480, Red Hill Road, NJ 07748, Tel: 908-615-4486, Fax: 908-615-4637, email: joyprasad@cora.att.com

Early bird Registration: June 15, 1994 (SAVE $10)
Registration deadline: July 15, 1994
North Jersey PES/IAS: 

**Microprocessor-Based Generator Protection**

The Power Engineering Society and Industry Applications Society (IAS) is planning to hold a technical talk on "Microprocessor-Based Generator Protection". The talk will be presented by Mr. John Smith from the Generator Protection Division.

The presentation will highlight the advantages of using microprocessor-based relay systems for generator protection. It will cover topics such as the operation of microprocessors, the protection of generators, and the design of microprocessor-based systems. The speaker will discuss the practical implementation of these systems in real-world scenarios.

The talk is scheduled at 10:00 AM in the main auditorium. Attendees are encouraged to bring their questions and problems to discuss during the Q&A session.

For more information, please contact Mr. John Smith at john.smith@powerengineering.com or call (123) 456-7890.

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**Evolution of The Math Problem**

In 1900: "A logger sells a truckload of lumber for $100. His cost of production is $65 of this price. What is his profit?"

In 1970: "A logger sells a truckload of lumber for $100. His cost of production is $45 of this price. In other words, $50 is profit!"

In 1970 (new math): "A logger exchanges a set of lumber for a set of lumber. What is the cost of production?"

In 1990 (labor laws): "A logger sells a total amount of lumber for $100. His cost of production is $80. His profit is $20. What is the number of union members in the lumber industry?

In 1999 (corrected): "A logger makes $20 profit per truckload of lumber. What's the profit margin?"

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**IEEE DECK NAMEPLATES**

The IEEE DECK NAMEPLATES are available for the New Jersey Section. These nameplates can be purchased at the following locations:

- IEEE Northeast Section, 123 Main Street, Somerville, NJ 08876
- IEEE New York Section, 456 Broadway, New York, NY 10013
- IEEE Western Section, 789 Mission Street, San Francisco, CA 94105

**IEEE Get an IEEE Member Program**

- IEEE ID:
  - AEE: 123-456-789
  - IEEE: 123-456-789

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**North Jersey Section PACE:**

**The Macrotomic Theory**

On June 9, 2004, the North Jersey Section of the IEEE PES will host a talk on "The Macrotomic Theory" at 10:00 AM in the main auditorium. The speaker will be Dr. Jane Doe from the Department of Electrical Engineering.

The presentation will cover the theoretical foundations of the Macrotomic Theory and its applications in various fields. Attendees are encouraged to bring their questions and problems to discuss during the Q&A session.

For more information, please contact Dr. Jane Doe at jane.doe@njsection.ieee.org or call (123) 456-7890.