



Information sur les cours, dates et places disponibles sur WWW:
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<http://www.cern.ch/Training/>

En complément au programme présenté dans la brochure 1997-1998, l'Enseignement Technique est maintenant en mesure d'offrir des cours sur les sujets suivants.

In addition to the courses that were presented in the 1997/1998 Training Programme brochure, Technical Training is now able to offer courses in the following subjects.

**Bureautique et techniques administratives/Office
Automation and Administrative Techniques :**

Introduction à Netscape Mail
Introduction à Eudora (Light) Mail
MS-Office 97 (Word, Excel, PowerPoint)

Conception électronique/Electronic Design :

LabView hands-on
LabWindows hands-on
LabView migration to version 5.0
BridgeView
CADENCE Specctra
Visual HDL
PCAD 13 saisie de schéma
mise à jour 8-13
cours de base
PCAD 13 PCB layout
mise à jour 8-13
cours de base
WorldFIP
Profibus
VME bus théorie et pratique
Pulsed Power Technology

**Matériaux et conception mécanique/
Materials and Mechanical Design :**

AutoCAD desktop
AutoCAD 3D
Méthode des éléments finis (FEM)
ANSYS 5.4 upgrade
ANSYS 5.4 basic
NASTRAN (CAD)
EUCLID

Sécurité/Safety :

Sécurité dans les installations cryogéniques
Flammable gas safety (version française disponible)
Manipulation des produits chimiques

**Technologies de logiciels et de systèmes/
Software and Systems Technologies :**

Présentation du langage Java
Programmation en Java niveau 1
Programmation en Java niveau 2
Programmation en Java niveau 3
Supporting Windows NT 4.0
NT/Visual C++ Programmer's Workshop

Divers/Other :

Matcad
Advanced MS-Project

Veuillez noter que, dans la plupart des cas, ces cours peuvent être donnés en français ou en anglais. La description des cours est disponible sur le Web à l'adresse : <http://www.cern.ch/Training/>, d'où il est possible de s'inscrire par électronique en utilisant les boutons d'inscription qui figurent en bas de chaque page de description des cours.

Pour plus d'informations, veuillez envoyer un e-mail à enseignement.technique@cern.ch ou téléphonez au 74460.

Please note that in many cases these courses can be given in either English or French. Course descriptions can be found on the Web at <http://www.cern.ch/Training/> from where it is possible to apply electronically using the registration buttons that can be found at the end of each description page.

For more information please send an e-mail to technical.training@cern.ch or telephone 74460.

**PLACES DISPONIBLES
PLACES AVAILABLE**

Plusieurs cours prévus peuvent encore accueillir quelques participants. Vous les trouverez dans la liste ci-dessous.

Some places are still available in the following courses

PCAD 13 - Saisie de schémas	13.2.98	1 jour
PCAD 13 - Layout PCB	16-17.2.98	2 jours
<i>Course for RSO, supervisors of work in limited stay areas and physicists working at ISOLDE :</i>		
- Introduction to Radiation Protection	16-25.2.98	4 days
<i>Cours pour RSO, superviseurs du travail dans des zones à séjour limité et physiciens travaillant à ISOLDE :</i>		
- Introduction à la Radioprotection	16-25.2.98	4 jours
- Radioprotection	23.2.98	1 jour
Introduction to Software engineering	17-18.2.98	2 days
Object-oriented analysis & design	3-6.3.98	4 days
Filemaker Pro sur PC	3-6 mars	4 jours
Introduction to PowerPoint	6.3.98	1 day
C++ for Particle physicists	9-13.3.98	18 hours
Présentation de Java	12.3.98	1 jour

Si vous désirez participer à l'un de ces cours, remplissez le **plus rapidement possible**, une "demande de formation" disponible auprès du Secrétariat de votre Division ou de votre DTO (Délégué divisionnaire à la formation) ou inscrivez-vous par EDH. Les places seront attribuées dans l'ordre de réception des inscriptions.

If you wish to participate to one of these courses, please fill in, as soon as possible, an "application for training" form available from your Divisional Secretariat or from your DTO (Divisional Training Officer) or apply through EDH. Applications will be accepted in the order of their receipt.

L'APPRENTISSAGE AU CERN
pour la profession d'employé(e) de commerce
Fiche d'information 1998

L'apprentissage au CERN est régi par les lois, règlements et contrats en vigueur dans le Canton de Genève. En cas de réussite à l'examen de fin d'apprentissage, les apprentis obtiennent le Certificat Fédéral de Capacité Suisse (CFC).

1 à 2 places sont offertes cette année.

1 place est ouverte au recrutement pour des candidats résidant dans des pays-membres du CERN non-hôtes*. (pays hôtes : France et Suisse)

L'apprentissage dure 3 ans.

Minima requis pour faire acte de candidature :

1. avoir terminé la scolarité obligatoire
2. être ressortissant d'un pays-membre du CERN (Allemagne, Autriche, Belgique, Danemark, Espagne, Finlande, France, Grèce, Hongrie, Italie, Norvège, Pays-Bas, Pologne, Portugal, République slovaque, République tchèque, Royaume-Uni, Suède, Suisse)
3. **pour les candidats résidant dans les pays-hôtes :**
 - avoir au moins 15 ans et moins de 21 ans à la date de début de l'apprentissage
 - avoir un niveau scolaire correspondant à la 9ème à Genève et à la 3ème en France (connaissances d'allemand et d'anglais exigées)
 - pour les résidents en Suisse : être ressortissant suisse ou être titulaire d'un permis de séjour.
 - pour les résidents en France : être ressortissant suisse ou être enfant de fonctionnaire du CERN.
4. **pour les candidats résidant dans un des pays-membres du CERN non-hôtes :**
 - avoir au moins 18 ans et moins de 21 ans à la date de début de l'apprentissage
 - avoir une bonne connaissance de la langue française pour pouvoir suivre l'enseignement dans cette langue (connaissances d'allemand et d'anglais exigées)

Sur demande**, les brochures d'information et les formulaires de candidature seront envoyés aux intéressés dès JANVIER.

Les candidatures doivent être reçues au plus tard le **9 mars 1998**.

Les candidatures ne seront prises en considération que si elles sont complètes. Des photocopies (pas les originaux!) des documents suivants doivent être jointes au formulaire de candidature :

5. carte d'identité ou passeport
6. toutes les notes scolaires du début du secondaire à l'année en cours.

La sélection (tests de connaissances, entrevues, stages pratiques) a lieu en MARS ET AVRIL.

Les apprentis sont engagés (contrats signés) au plus tard en JUIN.

L'apprentissage débute à la fin du mois d'août.

En règle générale, le CERN n'engage pas ses apprentis directement après leur apprentissage.

Pour tous renseignements sur les apprentissages à Genève, s'adresser à : L'Office d'Orientation et de Formation Professionnelle, 6 rue Prévost-Martin, Case Postale 457, 1211 Genève 4, (Tél. 022 705.01.11).

****Pour toute information complémentaire, contactez :**

Laurence de LORIOU Tél. 767 44 70 Bât. 5-2-006

De : _____ Division : _____

A : Laurence de Loriol/PE

Je désire recevoir la documentation sur l'apprentissage d'employé(e) de commerce.

9, 10, 11, 12 & 13 February

Auditorium

LHC DETECTORS

F. Benz Secretariat ☎ 73127
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Monday 9 February, from 10.15 to 11.00 hrs

Survey of previous results from hadron colliders and physics motivation for LHC

by K. EINSWEILER / LBL, Berkeley, USA

The present state of knowledge of the Standard Model and several examples of beyond the Standard Model physics is summarized. Special emphasis is placed on results from hadron colliders, particularly the FNAL Tevatron. Expectations for the remainder of the pre-LHC period are discussed, leading to an estimate of our expected level of understanding prior to LHC startup.

Monday 9 February, from 11.15 to 12.00 hrs

Requirements and design criteria for ATLAS

by M. FERNANDEZ-BOSMAN / IFAE, Barcelona, Spain

The Atlas detector is a general-purpose pp detector designed to exploit the full discovery potential of the LHC. The overall concept of the detector is reviewed in the context of the main physics performance goals. The choice of the magnet configuration and the design of the main components of the detector, calorimetry, inner detector, muon detector and trigger system are discussed in terms of the required performances for electron, gamma, muon, jet and missing transverse energy measurement and jet-tagging capability. The variety of signatures that will be available at the high LHC luminosity and at the initial phase of lower luminosity are reviewed.

Tuesday 10 February, from 10.15 to 11.00 hrs

Requirements and Design Criteria for CMS

by F. PAUSS / ETH, Zürich, CH

The Compact Muon Solenoid (CMS) experiment is a general-purpose detector designed to exploit the physics of pp-collisions at a centre-of-mass energy of 14 TeV over the full range of luminosities expected at the LHC. Physics requirements and design considerations which led to the CMS detectors will be reviewed.

Tuesday 10 February, from 11.15 to 12.00 hrs

Tracking at LHC

by L. ROSSI / EP

The role of tracking and vertexing for the LHC experiments will be described. The characteristics of the various tracking detectors will be illustrated and the motivations for the solutions adopted will be commented upon. Some system aspects will be covered together with recent R&D advances.

Wednesday 11 February, from 10.15 to 11.00 hrs

Calorimetry at LHC

by B. MANSOULIE / CEN, Saclay, France

The calorimeters at LHC will be precision instruments, able to reconstruct a two-photon mass (from a 100 GeV Higgs boson decay) with a 1% resolution or a di-jet mass (from a W boson) with a 10% resolution. These physics goals must

be reached within the high luminosity environment, demanding an important evolution from previously available technologies. ATLAS and CMS have chosen very different solutions to fulfil these requirements. The designs of the electromagnetic and hadronic calorimeters are now finalized and have been described in the Technical Design Reports. Both designs will be presented, showing the assets or difficult points, and how the two experiments are very much complementary in this respect.

Wednesday 11 February, from 11.15 to 12.00 hrs

Muon identification and measurements at LHC

by A. BENVENUTI / EP Division

The importance and challenges of muon identification at LHC will be reviewed. The solutions adopted by ATLAS and CMS to achieve optimal muon identification will be illustrated.

Thursday 12 February, from 10.15 to 11.00 hrs

Electronics at LHC

by G. HALL / Imperial College, London, GB

An overview of the electronic readout systems planned for use in the CMS and ATLAS experiments at the LHC will be given, with an emphasis on the motivations for the designs adopted and major technologies to be employed, especially those which are specific to LHC.

Thursday 12 February, from 11.15 to 12.00 hrs

Trigger / DAQ at LHC

by P. SPHICAS / EP Division

At its design luminosity, the LHC will deliver hundreds of millions of proton-proton interactions per second. Storage and computing limitations limit the number of physics events that can be recorded to about 100 per second. The selection will be carried out by the Trigger and Data Acquisition Systems of the experiments. This lecture will review the requirements, architectures and various designs currently considered.

Friday 13 February, from 10.15 to 11.00 hrs

Physics performance : SM, alternative EWSB

K. JAKOBS / Mainz University, Mainz, D

The LHC offers a large physics potential in both the test of the Standard Model as well as in the search for new physics. In the present lecture various aspects of the Standard Model physics are discussed. This includes the search for the SM Higgs, a study of alternative symmetry breaking mechanisms, gauge boson pair production, W- and top-physics. The performance and the experimental techniques of both the ATLAS and the CMS experiment are presented.

Friday 13 February, from 11.15 to 12.00 hrs

Physics performance; MSSM Higgs, Sparticles

by J. WOMERSLEY / Fermilab, Batavia, USA

16, 17, 18 & 19 February

11.00 to 12.00 hrs – Auditorium

Radiation Damage

by E. HEIJNE / CERN-EP & H. SCHÖNBACHER /
CERN-TIS

a) Radiation damage in organic materials

This series of lectures will give an overview of radiation effects on materials and components frequently used in accelerator engineering and experiments. Basic degradation phenomena will be presented for organic materials with comprehensive damage threshold doses for commonly used rubbers, thermoplastics, thermosets and composite materials. Some indications will be given for glass, scintillators and optical fibres.

b) Radiation effects in semiconductor materials and devices.

The major part of the time will be devoted to treat radiation effects in semiconductor sensors and the associated electronics, in particular displacement damage, interface and single event phenomena. Evaluation methods and practical aspects will be shown. Strategies will be developed for the survival of the materials under the expected environmental conditions of the LHC machine and detectors.

Madeleine Pincott ☎ 73674
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The Management and Communication training programme is pleased to announce that a prototype course on Project Management has been scheduled for 17-19 March. Anyone interested is requested to send in their application (either electronically from the course description on the Web or on paper) as soon as possible.

The 3-day, bilingual course is designed to give an overview of what is needed to manage a project. It will be followed by a 2-day session on project management tools.

Project Management

Duration : 3 days

Language : bilingual

Dates : 17-19 March 1998

Trainer : Gilles Vallet

Designed for : both people who participate in projects and/or who have responsibility for running them.

Objective : to become familiar with modern Project Management methods and techniques.

Programme : Project Integration

Project Scope Management

Project Organization & Structuration

Project Scheduling.

INFORMATIONS GENERALES GENERAL INFORMATION

CENTRAL COMPUTING SERVICE INTERRUPTION 13-14 FEBRUARY

As announced last week in Computing NEWS and in the Weekly Bulletin, power will be off in the Computer Centre between 18:00 on Friday 13 February and 20:00 on Saturday 14 February. It should be emphasised that this shutdown is a requirement from TIS for the necessary safety tests of the power distribution system to the Centre and from SL Division for maintenance work on the substation that supplies both the PS and the Centre. This work has to be co-ordinated with other activities and the timing is thus essentially beyond the control of IT.

To reduce the effect on users as much as possible, the Computer Centre staff, helped by ST, plans to keep some equipment alive by moving it to a temporary power source. These moves, some of which will unfortunately themselves result in short breaks to individual services, will be made at convenient moments well outside normal working hours. The only significant one will be a break of up to 2 hours in external networking connectivity starting at 05:30 on Thursday 12 February.

As a result of these moves, the following services should remain up during the main power-off:

- On-site networking
- External networking connections, including the ACB service
- The NICE'95, NICE/NT and Mac desktop services
- The central mail service
- Externally accessible Web servers (www.cern.ch, wwwinfo.cern.ch and associated systems)

Be aware, however, that services on the temporary supply will be vulnerable to any disturbance of the normal site electricity supply.

All other Computer Centre services will be down. The run-down schedule on Friday 13 February is as follows:

- All services depending on the AFS file service will be stopped at 16:15 to allow an orderly AFS rundown starting at 16:30. These include the UNIX desktop services, the PLUS services, licence servers, the AFS and NFS gateways, ASIS, the X-terminal boot servers and the CAE/CAD servers. VXCERN and the news server will stop about the same time as AFS.
- The Oracle central services will be stopped at 16:00.