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UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

1989

**GUIDE TO TRAINING OPPORTUNITIES
FOR INDUSTRIAL DEVELOPMENT**
(Seventeenth issue)

**APERÇU DES MOYENS DE FORMATION
POUR LE DÉVELOPPEMENT INDUSTRIEL**
(Dix-septième édition)

**REPERTORIO DE
OPORTUNIDADES DE CAPACITACIÓN
PARA EL DESARROLLO INDUSTRIAL**
(Decimoséptima edición)

The designations "developed" and "developing" countries are intended for technical convenience and do not, necessarily, express a judgement about the stage reached by a particular country or area in the development process.

* * *

Les expressions "pays développés" et "pays en développement" ont un sens purement technique et n'expriment pas nécessairement un jugement sur le stade de développement atteint par tel ou tel pays ou région.

* * *

Las designaciones "países desarrollados" y "países en desarrollo" se han adoptado con fines técnicos, y su empleo no necesariamente entraña la expresión de un juicio sobre la etapa alcanzada por un país o región en el proceso de desarrollo.

Preface

This compilation of industrial training opportunities for personnel from developing countries is the seventeenth edition of a UNIDO publication that first appeared in 1972. It is based on the replies to a questionnaire soliciting information about training facilities, sent to Governments, organizations, institutions and other bodies concerned with industrial training. To reduce the size of this edition entries listed in earlier issues have not been repeated unless a specific request to do so was received from the organizer. Likewise, a single entry frequently covers many courses given by the same organization. Approximately 740 entries in the *Guide* cover more than 3,000 training courses. It should be emphasized that while these are but a fraction of the facilities existing globally for industrial training, they are possibilities that Governments and organizations believe are of particular interest to UNIDO.

Reflecting the increasing importance of technical co-operation among developing countries, the number of entries covering training opportunities in those countries continues to grow. This increase is indicative of the attractiveness and benefit to personnel from developing countries of receiving training in circumstances that are similar to those in their home countries. Moreover, greater use of the facilities in developing countries helps to mitigate the difficulties that sometimes arise in arranging suitable training programmes in industrialized countries, where facilities are often strained.

The *Guide* is divided into three chapters:

- I. Training opportunities organized and offered by UNIDO (yellow pages);
- II. Training opportunities offered by institutions other than UNIDO classified according to industrial branches and industrial functions, excluding short-term courses of less than half a month; and
- III. Other courses, and short-term courses that may be of interest as part of longer, more comprehensive training programmes.

The training opportunities listed are suitable mainly for technical, managerial and administrative personnel, including entrepreneurs, at the level of engineers (or equivalent) and above, engaged in industry and its development. With a few exceptions, courses in the regular curricula of universities or similar institutions are not included, nor is information on *ad hoc* training in industry or elsewhere. Part-time courses are also not included.

Chapter I follows chronological order, while the entries in chapters II and III are listed by country in English alphabetical order.

UNIDO is not in a position to give further details on courses in chapters II and III. Readers who wish to have more information are asked to contact the institutions directly, using the mailing address given in each entry.

The training opportunities listed in the *Guide* are not limited to holders of UNIDO fellowships. Any qualified individual from a developing country who has not applied for or won a UNIDO fellowship may apply for a course or be

nominated to attend. Such applications and nominations may go directly to the organizer of the course. Applicants for UNIDO fellowships, however, must be nominated by their Governments, and the nominations must be sent through the Resident Representative of the United Nations Development Programme (UNDP) to UNIDO. Further information on UNIDO training activities is available from the UNIDO Industrial Training Offer Programme, 1989.

Information on training facilities in a wide range of subjects may be requested from the secretariats of the Economic Commission for Africa (ECA), Addis Ababa; the Economic and Social Commission for Asia and the Pacific (ESCAP), Bangkok; the United Nations Office at Geneva; the United Nations Conference on Trade and Development (UNCTAD), Geneva; the International Labour Organisation (ILO), Geneva; the International Centre for Advanced Technical and Vocational Training, Turin, Italy; the International Maritime Organization (IMO), London; the Food and Agriculture Organization of the United Nations (FAO), Rome; the United Nations Educational, Scientific and Cultural Organization (UNESCO), Paris; the World Intellectual Property Organization (WIPO), Geneva; and other international organizations.

It is hoped that this publication will continue to benefit those in developing countries who are in need of industrial training. The eighteenth edition of the *Guide* is scheduled to appear in late 1989 and will cover courses to be offered in 1990 and, to the extent possible, 1991.

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Préface

Le présent *Répertoire* des possibilités de formation industrielle offertes aux cadres de pays en développement est la dix-septième édition d'un document de l'ONUDI publié pour la première fois en 1972. Il a été établi d'après les renseignements fournis par un certain nombre de gouvernements, d'organisations et d'institutions s'occupant de formation industrielle en réponse à un questionnaire sur les possibilités de formation qu'ils offraient. Afin de condenser la présente édition, les rubriques qui figuraient déjà dans les éditions précédentes n'ont été réinsérées que sur la demande expresse des organisateurs. Il est également fréquent qu'une rubrique englobe plusieurs stages mis sur pied par une même organisation. Les quelque 740 rubriques couvrent plus de 3 000 stages de formation. Il convient de souligner que ces possibilités de formation ne représentent qu'une infime partie de celles qui sont offertes dans le monde entier mais que les organisations et les gouvernements estiment qu'elles présentent un intérêt particulier pour l'ONUDI.

Du fait de l'importance croissante de la coopération technique entre pays en développement, le nombre des possibilités de formation offertes dans ces pays ne cesse d'augmenter, ce qui témoigne des avantages que présente, pour leurs ressortissants, une formation dans des conditions proches de celles de leur pays d'origine. En outre, le recours accru aux moyens dont disposent les pays en développement contribue à atténuer les difficultés que soulève parfois l'organisation de stages de formation appropriés dans les pays industrialisés, où les services compétents ne sont souvent plus en mesure d'accepter un surcroît de travail dans ce domaine.

Le présent *Répertoire* comprend trois chapitres :

- I. Possibilités de formation offertes par l'ONUDI elle-même (pages jaunes);
- II. Possibilités de formation offertes par des institutions autres que l'ONUDI, classées par secteurs industriels et fonctions industrielles, à l'exception des stages de courte durée (moins de 15 jours); et
- III. Stages qui n'entrent pas dans les catégories précitées et stages de courte durée qui peuvent utilement s'insérer dans des programmes de formation plus longs et plus vastes.

Les possibilités de formation énumérées sont destinées avant tout au personnel technique et administratif (ingénieurs ou équivalents et personnel de rang supérieur) et aux chefs d'entreprise qui travaillent dans l'industrie et participent à son développement. A quelques exceptions près, les matières figurant ordinairement au programme des universités et des établissements similaires n'ont pas été retenues, non plus que les renseignements concernant des programmes spéciaux de formation organisés notamment dans l'industrie. Il en a été de même pour les stages à temps partiel.

Pour le chapitre premier, on a adopté l'ordre chronologique, tandis que dans les chapitres II et III les possibilités de formation énumérées sont classées dans l'ordre alphabétique anglais des pays hôtes.

Pour obtenir de plus amples renseignements sur les stages visés aux chapitres II et III, on se mettra en rapport directement avec les institutions intéressées; leur adresse figure dans les rubriques consacrées aux stages qu'elles organisent.

Les moyens de formation indiqués ne sont pas réservés exclusivement aux titulaires de bourses de l'ONUDI. S'il remplit les conditions requises, tout ressortissant d'un pays en développement peut demander à participer à l'un de ces stages ou à être désigné pour y participer. Dans le cas des personnes n'ayant pas sollicité ou obtenu une bourse des Nations Unies, les demandes ou les candidatures peuvent être présentées directement à l'organisateur du stage considéré. Les candidats à des bourses de l'ONUDI doivent être désignés par leur gouvernement et leurs dossiers doivent être soumis à l'Organisation par l'intermédiaire du Programme des Nations Unies pour le développement (PNUD). Pour tous renseignements complémentaires sur les activités de formation de l'ONUDI, prière de consulter la brochure intitulée "Programme de formation industrielle proposé par l'ONUDI pour 1989".

Des renseignements sur les possibilités de formation dans de nombreux domaines peuvent être obtenus auprès du secrétariat de la Commission économique pour l'Afrique (CEA), à Addis-Abeba; de la Commission économique et sociale pour l'Asie et le Pacifique (CESAP), à Bangkok; de l'Office des Nations Unies à Genève; de la Conférence des Nations Unies sur le commerce et le développement (CNUCED), à Genève; de l'Organisation internationale du Travail (OIT), à Genève; du Centre international de perfectionnement professionnel et technique de Turin (Italie); de l'Organisation maritime internationale (OMI), à Londres; de l'Organisation des Nations Unies pour l'alimentation et l'agriculture (FAO), à Rome; de l'Organisation des Nations Unies pour l'éducation, la science et la culture (UNESCO), à Paris; de l'Organisation mondiale de la propriété intellectuelle (OMPI), à Genève; et d'autres organisations internationales.

L'ONUDI espère que la présente publication sera aussi utile que les précédentes à ceux qui, dans les pays en développement, ont besoin d'une formation industrielle. La dix-huitième édition du *Répertoire*, qu'il est prévu de publier à la fin de 1989, indiquera les possibilités de formation offertes pour l'année 1990 et, dans la mesure du possible, pour l'année 1991.

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Prefacio

La presente compilación de oportunidades de capacitación industrial para personal de países en desarrollo constituye la decimoséptima edición de una publicación de la ONUDI que apareció por vez primera en 1972. Está basada en las respuestas a un cuestionario enviado a gobiernos, organizaciones, instituciones y otras entidades que se ocupan de la capacitación industrial, solicitando información sobre servicios e instalaciones para este objeto. A fin de reducir las dimensiones de esta edición, no se ha repetido ninguna entrada que figurase en ediciones anteriores salvo cuando se ha recibido una solicitud expresa de la entidad organizadora. Asimismo, una sola entrada sirve, a menudo, para reseñar varios cursos impartidos por la misma organización. El *Repertorio* contiene aproximadamente 740 entradas y facilita información sobre más de 3.000 cursos de capacitación. Si bien estas cifras no pasan de ser una fracción de las oportunidades de capacitación industrial existentes en todo el mundo, cabe señalar que se trata de oportunidades consideradas por los gobiernos y las organizaciones competentes como de particular interés para la ONUDI.

De resultas de la creciente importancia de la cooperación técnica entre países en desarrollo, sigue en aumento el número de entradas sobre oportunidades de capacitación en esos países. Este aumento denota también el atractivo y los beneficios que presenta para el personal de países en desarrollo el recibir capacitación en condiciones similares a las del propio país. Además, el recurrir en mayor medida a los servicios de esta índole existentes en los países en desarrollo contribuye a aliviar las dificultades que a veces entraña la organización de cursos de capacitación adecuados en los países industrializados, cuyos servicios están ya excesivamente recargados.

El *Repertorio* está dividido en tres capítulos:

- I. Oportunidades de capacitación organizadas y ofrecidas por la ONUDI (páginas amarillas);
- II. Oportunidades de capacitación ofrecidas por instituciones distintas de la ONUDI y clasificadas por ramas industriales y funciones industriales, que no sean cursos cortos, de menos de medio mes de duración; y
- III. Otros cursos, y cursos cortos que puedan ofrecer interés como componentes de programas de capacitación de contenido más amplio y de mayor duración.

Las oportunidades de capacitación aquí compiladas corresponden principalmente a las necesidades del personal técnico, directivo y administrativo, incluidos los empresarios, a nivel de ingenieros (o equivalente) y personal de categoría superior, dedicado a actividades relacionadas con la industria y su desarrollo. Con escasas excepciones, no se han incluido ni los cursos que forman parte de los planes de estudio ordinarios de universidades o instituciones similares, ni la información relativa a la capacitación especial

impartida en la industria o en otros centros. Tampoco se han incluido los cursos a tiempo parcial.

En el capítulo I se sigue el orden cronológico, mientras que en los capítulos II y III, las entradas se presentan en el orden alfabético inglés de los países en que se ofrece la capacitación.

La ONUDI no está en condiciones de dar más detalles sobre los cursos enumerados en los capítulos II y III. Se ruega a los lectores que deseen más información al respecto que se dirijan directamente a esas instituciones, cuyas direcciones figuran junto a cada entrada.

Las oportunidades de capacitación indicadas en el *Repertorio* no se ofrecen sólo a becarios de la ONUDI. Cualquier persona calificada de un país en desarrollo que no haya solicitado u obtenido una beca de la ONUDI puede solicitar su admisión o ser presentada como candidato para participar en uno de estos cursos. Esta solicitud y su candidatura pueden dirigirse directamente al organizador del curso. En cambio, las candidaturas a becas de la ONUDI deben ser presentadas a la Organización por los respectivos gobiernos, por conducto del Representante Residente del Programa de las Naciones Unidas para el Desarrollo (PNUD). En el Programa de Ofertas de Capacitación Industrial de la ONUDI para 1989 se ofrece más información sobre las actividades de capacitación de la Organización.

Puede solicitarse información sobre servicios de capacitación, en muchas materias, a las secretarías de la Comisión Económica para África (CEPA), en Addis-Abeba; la Comisión Económica y Social para Asia y el Pacífico (CESPAP), en Bangkok; la Oficina de las Naciones Unidas en Ginebra; la Conferencia de las Naciones Unidas sobre Comercio y Desarrollo (UNCTAD), en Ginebra; la Organización Internacional del Trabajo (OIT), en Ginebra; el Centro Internacional de Perfeccionamiento Profesional y Técnico, en Turín (Italia); la Organización Marítima Internacional (OMI), en Londres; la Organización de las Naciones Unidas para la Agricultura y la Alimentación (FAO), en Roma; la Organización de las Naciones Unidas para la Educación, la Ciencia y la Cultura (UNESCO), en París; la Organización Mundial de la Propiedad Intelectual (OMPI), en Ginebra, y otras organizaciones internacionales.

Se espera que esta publicación siga beneficiando a aquellas personas de los países en desarrollo que requieran capacitación industrial. La publicación de la decimotava edición de este *Repertorio* está prevista para finales de 1989; comprenderá los cursos que vayan a ofrecerse en 1990 y, en la medida de lo posible, en 1991.

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Chapter I. Training opportunities offered by UNIDO

UNIDO organizes group training programmes for technical and managerial personnel in industry and industrial institutions in developing countries, in co-operation with Governments, firms and organizations having specialized knowledge and experience in a particular field. Two kinds of training are offered: in-plant group training programmes, which last from two to five months, and seminars and other group training programmes, lasting from one to six weeks.

The objectives of the in-plant group training programmes are to furnish the participants with intensive practical experience in a relatively short time and to upgrade their theoretical knowledge. The programmes are monitored by experts and usually include four elements: a theoretical introduction, studies, in-plant training and study tours. At the end of each programme, an evaluation session is held, during which participants are provided with the opportunity to assess the value of what they have learned in the light of conditions in their home countries. The seminars and other group training programmes have the same objectives. They offer theoretical instruction and, to the extent feasible, practical work.

At the time of the publication of this *Guide*, the UNIDO group training programmes listed in this chapter are scheduled to take place in 1989. They are all organized *subject to the availability of funds* and suitable host facilities. The programmes are held on a regional or interregional basis, this being clearly indicated for each of the programmes listed. Please note that the language in which the course will be conducted is shown for each programme; it is essential that participants are proficient in that language to obtain maximum results out of the programme.

Formal applications for participation should be submitted to UNIDO through appropriate government channels and UNDP resident representatives only after the official invitation requesting nomination of candidates has been received. Apart from that, however, Governments are asked to notify UNIDO as early as possible of their interest in participating.

The general requirements for admission are a university degree or equivalent and several years of practical experience in the particular field.

Further information may be obtained from:

Industrial Training Branch, DIO
United Nations Industrial Development Organization
P.O. Box 300
A-1400 Vienna, Austria

Any query regarding these programmes should reach UNIDO as far in advance as possible to allow time for the channelling of communications.

Chapitre I. Possibilités de formation offertes par l'ONUDI

L'ONUDI organise, en coopération avec les gouvernements des pays hôtes et avec le concours d'entreprises industrielles et d'instituts spécialisés dans les domaines considérés, des stages de formation en groupe à l'intention du personnel technique et des cadres de gestion des entreprises et instituts industriels des pays en développement. L'Organisation propose deux types de formation : stages de formation collective en entreprise, qui durent de deux à cinq mois, et séminaires ou autres stages de formation collective qui durent de une à six semaines.

Les stages de formation collective en entreprise ont pour objectifs de permettre aux participants d'acquérir, dans un laps de temps relativement court, une solide expérience pratique et de parfaire leurs connaissances théoriques. Ils sont dirigés par des experts et comprennent en général quatre parties, à savoir une introduction, théorique, des études, une formation dans des entreprises et des visites d'établissements. Tous les stages se terminent par une session d'évaluation au cours de laquelle les participants évaluent les connaissances qu'ils ont acquises, eu égard aux conditions existant dans leur pays d'origine. Les séminaires et les autres stages de formation collective répondent aux mêmes objectifs et comportent une formation théorique et, dans la mesure du possible, des travaux pratiques.

Au moment de la publication du présent *Répertoire*, les stages de formation en groupe de l'ONUDI mentionnés ci-après étaient prévus pour 1989. Tous sont organisés *sous réserve de disposer des fonds nécessaires* et de trouver, dans le pays d'accueil, des moyens de formation adéquats. Les stages sont organisés sur une base régionale ou interrégionale; cela est clairement indiqué pour chacun des stages figurant dans la liste. Il est à noter que la langue dans laquelle le cours sera conduit est mentionnée pour chaque stage. Il est essentiel que les participants maîtrisent cette langue pour retirer le maximum de résultats du stage.

Les candidatures ne doivent être présentées à l'ONUDI par l'intermédiaire des services officiels compétents et du représentant résident du PNUD qu'après réception de l'invitation officielle demandant l'envoi de candidatures; les gouvernements sont en outre priés de faire savoir le plus rapidement possible à l'ONUDI s'ils envisagent de présenter des candidats à tel ou tel stage.

Les conditions générales d'admission sont les suivantes : être titulaire d'un diplôme universitaire (ou d'une équivalence) et justifier de plusieurs années d'expérience dans le domaine sur lequel porte la formation.

De plus amples renseignements sur les stages peuvent être obtenus à l'adresse suivante :

Service de la formation industrielle, DOI
Organisation des Nations Unies pour le développement industriel
Boîte postale 300
A-1400 Vienne (Autriche)

Les demandes de renseignements concernant les stages doivent parvenir suffisamment tôt à l'ONUDI pour que celle-ci puisse y donner suite en temps utile, compte tenu des délais de transmission des communications.

Capítulo I. Oportunidades de capacitación ofrecidas por la ONUDI

La ONUDI, con la colaboración de diversos gobiernos así como empresas y organizaciones poseedoras de experiencia y conocimientos especializados, organiza programas de capacitación colectiva destinados a personal administrativo y técnico de categoría superior de la industria y las instituciones industriales de países en desarrollo. Se ofrecen dos tipos de capacitación: programas de capacitación colectiva en el trabajo, que duran de dos a cinco meses, y seminarios y otros programas de capacitación colectiva, de una a seis semanas de duración.

Los objetivos de los programas de capacitación colectiva en el trabajo consisten en dar a los participantes, en un espacio de tiempo relativamente corto, la posibilidad de adquirir experiencia práctica intensiva y de ampliar sus conocimientos teóricos. Los programas son supervisados por expertos y, en general, constan de cuatro elementos: una introducción teórica, los estudios, la capacitación en el trabajo, y viajes de estudio. Cada programa termina con una sesión de evaluación, en la cual los participantes examinan la utilidad de lo que han aprendido, a la luz de las circunstancias existentes en sus respectivos países. Los seminarios y demás programas de capacitación colectiva tienen los mismos objetivos: ofrecen enseñanza teórica y, en la medida de lo posible, estudios prácticos.

En el momento de publicarse este *Repertorio*, los programas de capacitación colectiva de la ONUDI mencionados en este capítulo están programados para llevarse a cabo en 1989. La organización de cada uno de estos programas *está sujeta a la disponibilidad de los recursos financieros necesarios* así como a la disponibilidad de una infraestructura de capacitación adecuada por la entidad huésped. Los programas se celebrarán con carácter regional e interregional; esto está claramente indicado para cada programa anunciado. Por favor, nótese que la lengua en la cual el curso será conducido será indicada en cada programa. Es esencial que los participantes conozcan bien esta lengua para obtener los mayores resultados del programa.

Las solicitudes oficiales de participación deben presentarse a la ONUDI a través de los conductos gubernamentales apropiados y por medio del Representante Residente del Programa de las Naciones Unidas para el Desarrollo, pero sólo después de recibida la invitación oficial en la que se pide la designación de candidatos. No obstante, se ruega a los Gobiernos que notifiquen a la ONUDI, lo antes posible, su interés por participar en estos programas.

Los requisitos generales de admisión son un título universitario (o su equivalente) y varios años de experiencia práctica en la esfera respectiva.

Puede obtenerse mayor información sobre estos programas escribiendo a:

Subdivisión de Capacitación Industrial, DOI
Organización de las Naciones Unidas para el Desarrollo Industrial
P.O. Box 300
A-1400 Viena (Austria)

Cualquier pregunta concerniente a estos programas deberá ser recibida en la ONUDI con la mayor antelación posible a fin de poder disponer de tiempo suficiente para contestarla.

JANUARY/JANVIER/ENERO

Maintenance of bio-medical equipment

General description: The objective of the course is to upgrade the skills of participants in a systems approach, which could be applied in the management, organization and implementation of maintenance programmes in the field of bio-medical equipment.

Duration: 23 January-10 February. *Invited countries:* China, India, Indonesia, Malaysia, Philippines, Republic of Korea, Thailand. *Qualifications:* Managers or engineers responsible for maintenance programmes in the field of bio-medical equipment. English.

Host institution: Sopha France
Paris, France

Quality improvement of industrial products

General description: Fundamental concepts and techniques of quality control, quality assurance and inspection; standardization and implementation of quality management; in-plant study on process improvements; plant visits and study tour.

Duration: 26 January-1 March. *Invited countries:* Interregional programme. *Qualifications:* Quality managers, production managers or managers having responsibility for quality improvement of manufactured products; at least 3 years of managerial experience. English.

Host institution: Association for Overseas Technical Scholarship
Tokyo, Japan

FEBRUARY/FÉVRIER/FEBRERO

Metalworking industry

General description: Planning, executing and supervising of the manufacturing processes of machine parts; design of jigs and fixtures, design and use of cutting tools; operation and maintenance, quality control and economics of metalworking operations. Practical studies in laboratories and in-plant training in metalworking (12 to 15 machine-producing factories). *Duration:* 20 February-16 June. *Invited countries:* Interregional programme. *Qualifications:* Degree in mechanical engineering or equivalent; at least 3 years of practical experience in a supervisory or managerial capacity in metalworking, particularly machine tool operations, planning, manufacture and maintenance and repair. English.

Host institution: Lumumba University
Moscow, Union of Soviet Socialist Republics

MARCH/MARS/MARZO

Formation des formateurs dans les institutions de financement dans le secteur des petites et moyennes entreprises

Description générale : Formation des formateurs; évaluer des besoins en formation; établir les objectifs; élaborer des programmes en fonction de l'analyse des objectifs

et des besoins; mettre en œuvre et suivre les programmes de formation; en évaluer l'incidence. *Durée* : 6-18 mars. *Pays invités* : Programme sous-régional. *Qualifications* : Cadres supérieurs des banques de développement, des institutions de financement, des offices de promotion chargés de l'exécution et de l'évaluation des programmes de formation.

Organisme hôte : Union douanière et économique de l'Afrique centrale

Lieu : Douala, Cameroun

Grain milling and storage (with training of trainers)

General description: Phase I covers technological aspects: technology and equipment of silos, flour mills; production of loose and granulated mixed fodders; quality control of grain, mixed fodders and flour. Lecture-type instruction, laboratory practicals and in-plant training in selected enterprises. Phase II covers training of trainers: personnel management concept; management of the training function in the plant; determination and analysis of training needs; concepts of learning psychology; use and development of audio-visual aids and materials for training; individualized and group training methods; curriculum development; evaluation and follow-up of training; training of managers and workers; practice in conducting training sessions. *Duration*: 15 March-22 June. *Invited countries*: Interregional programme. *Qualifications*: University degree in technology or equivalent; managerial or supervisory post in a grain milling enterprise or in a governmental or semi-governmental body dealing with grain milling enterprises; at least 3 years of practical experience. Candidates are expected to carry out training activities in their home countries upon completion of the programme. English.

Host institution: Institute for Advanced Training of Managers and Specialists of the USSR Ministry of State Purchases
Moscow, Union of Soviet Socialist Republics

Technology and equipment in electric welding

General description: Technology and equipment for electric fusion, resistance, welding processes, modern welding, arc power resources, welding material and structures, constructive technological designing of welded material. In-plant training in plants manufacturing electric welding equipment, metalworking industry as well as laboratories. *Duration*: 16 March-1 July. *Invited countries*: Interregional programme. *Qualifications*: University degree in electrical or mechanical engineering or equivalent; at least 3 years of practical experience related to electric welding. English.

Host institution: E. O. Paton Institute of Electric Welding
Kiev, Ukrainian Soviet Socialist Republic
(with visits to Minsk, Leningrad, Zaporozhye, Kherson)

Industrial planning and development

General description: Macro-planning and strategy oriented course. Long-term development issues of industrialization, industrial strategies and planning, industrial incentives and promotional policies, issues on technology transfer and labour employment, issues of financing industrial development, project preparation, project appraisal. Field trip and workshop. *Duration*: March/April, 4 weeks. *Invited countries*: Regional programme for Asia. *Qualifications*: University degree or equivalent and at least 3 years of practical experience in industrial development; industrial development economists at government organizations and public

institutions for industrial development and implementation; between 30 and 45 years of age. Good English.

Host institution: International Development Centre
Tokyo, Japan

Iron and steel industry technology

General description: In-plant training in sintering, iron-making, oxygen-converter, electric-arc and open-hearth furnace steelmaking; ladle metallurgy; continuous steel casting; sheet and section rolling; maintenance of electrical and mechanical equipment; refractory maintenance; environmental protection; foundry practice. Theory of the technological processes involved. Study visits to a number of plants in related industries. **Duration:** March-June. 12-14 weeks. **Invited countries:** Interregional programme. **Qualifications:** Degree in metallurgical, chemical, electrical or mechanical engineering; at least 3 years of practical experience; directly engaged in iron and steel industry. English.

Host institution: Zaporozh Steel
Zaporozhye, Ukrainian Soviet Socialist Republic

Maintenance and repair of railway equipment

General description: The objective of the course is to upgrade practical experience and theoretical knowledge in maintenance and repair of railway equipment. **Duration:** March-June. 12 weeks. **Invited countries:** Regional programme for Africa. **Qualifications:** Engineers in railway maintenance and repair. English.

Host institution: British Rail Engineering Ltd. (BREL)
Derby, United Kingdom

Venues: Derby, United Kingdom
Egypt

Management and organization of industrial co-operatives

General description: Intensive training programme consisting of theoretical and practical training in organization and management of industrial co-operatives to upgrade the skills and knowledge of personnel in ministries and co-operative organizations responsible for the development of industrial co-operatives. **Duration:** March/June. 8 weeks. **Invited countries:** Regional programme for Africa. **Qualifications:** University degree in economics, business administration or co-operatives or equivalent; senior policy and decision-making personnel; also senior management personnel engaged in industrial co-operatives. English.

Host institutions: Central Union of Work Co-operatives
Poland
Centre for International Technical Co-operation
Rome, Italy

Venues: Poland
Italy

APRIL/AVRIL/ABRIL

Entretien du matériel ferroviaire

Description générale : Le programme portera essentiellement sur les problèmes liés à l'achat et au stockage du matériel, les activités dans les ateliers, la surveillance des

travaux, l'utilisation d'ordinateurs, la formation pratique de personnel et les principes économiques fondamentaux de l'entretien et de la réparation du matériel roulant. On prévoit également des visites d'étude dans des entreprises spécialisées dans la fabrication de matériel ferroviaire. *Durée* : 5 avril-16 juin. 4 semaines. *Pays invités* : Programme régional pour l'Afrique. *Qualifications* : Etre titulaire d'un diplôme d'ingénieur (ou d'un diplôme équivalent), justifier d'une expérience pratique de 2 ans au moins et occuper un poste de cadre technique ou administratif. Préférence sera donnée aux candidats ayant déjà une expérience pratique de l'entretien et de la réparation du matériel roulant de chemin de fer. Français.

Organismes hôtes : Société nationale des chemins de fer belges (SNCB)
Bruxelles, Belgique
Union africaine des chemins de fer (UAC)
Afrique

Lieux : Belgique
Afrique

Industrial planning

General description: Technical aspects and methods of industrial planning at different levels; uniform systems of industrial planning at national, regional, sectoral and factory levels (long-term forecasts, long-term, medium-term and annual plans); organs of planning co-ordination of national industrial development plans at international level; strategies, planning and methods for human resources development at national, regional and enterprise levels. *Duration*: 17 April-23 May. 5½ weeks. *Invited countries*: Interregional programme. *Qualifications*: University degree and/or extensive experience in industrial planning preferably at national, sectoral and branch levels; senior positions with government or public enterprises. Good English.

Host institution: Institute of Economy of Developing Countries
DDR-1157 Berlin, German Democratic Republic

Cement industry technology

General description: Technical aspects of cement industry including feasibility studies, raw materials, production management technologies, quality control, maintenance, energy conservation, pollution and pollution control. *Duration*: April/May. 5 weeks. *Invited countries*: Interregional programme. *Qualifications*: Degree in chemical, mechanical, electrical or relevant branch of engineering; 1 to 5 years of practical experience; employed in cement industry. English.

Host institution: Cement Research and Development Centre
Ankara, Turkey

Design and production of spare parts

General description: Design and modern production processes (including economic and technical aspects); foundry materials, melting and casting technologies, pattern-making practice, moulding materials and moulding technology; quality control related to the production of spare parts and repair of castings; environmental protection including noise control and other safety and pollution problems. *Duration*: April-June. 10 weeks. *Invited countries*: Interregional programme. *Qualifications*: Degree in foundry or metallurgy or equivalent; at least 1 year of experience (preferably in a supervisory position) in the production of spare parts. English.

Host institution: Foundry Research Institute
Krakow, Poland

MAY/MAI/MAYO

Methods and techniques of pesticide production and formulation

General description: Development of pesticide chemicals; plant design environmental considerations; equipment used in pesticide formulation; testing of products; formulation of granular and wettable powders, dusts, aerosols, baits and emulsifiable compositions; packaging; quality control distribution. Study tours to major pesticide plants. *Duration:* 15 May-23 June. *Invited countries:* Interregional programme. *Qualifications:* Degree in agricultural or chemical engineering or chemistry or equivalent; at least 3 years of practical experience in a supervisory or managerial capacity in the production and formulation of pesticides. English.

Host institution: Karl Marx University
Leipzig, German Democratic Republic

Maintenance and repair of textile machinery

General description: Theoretical and practical training and study visits related to repair and maintenance of textile machinery for spinning and weaving. *Duration:* May/June. 1 month. *Invited countries:* Interregional programme. English. *Qualifications:* Degree in mechanical, industrial engineering or equivalent; 2-8 years of experience in repair and maintenance of textile machinery; currently holding supervisory position.

Host institution: Textile Industry
Zian, Shaanxi Province, China

Training of trainers in development finance institutions

General description: The programme is designed to familiarize participants with: the various phases of a project cycle; the entire process of training, e.g. systematic assessment of training needs, curriculum design and development, conduct of training courses, use of training methods and techniques. *Duration:* May/June. 5 weeks. *Invited countries:* Regional programme for Africa. *Qualifications:* University degree; middle and senior level trainers in development finance institutions justifying an experience as trainers for a minimum period of 1 to 2 years. English.

Host institution: Centre for Financial Assistance to African Countries
(FINAFRICA)
Milan, Italy

JUNE/JUIN/JUNIO

Technology of mineral fertilizer production

General description: Lectures and discussions on: nitrogen and phosphate fertilizers; technology and planning of mineral fertilizer production; raw material, present development prospects of world production of mineral fertilizers; key processes and operations and their economic evaluation. One month in-plant training at nitrogen fertilizer plants in the USSR. *Duration:* 11 June-10 October. *Invited countries:* Interregional programme. *Qualifications:* University degree in chemical engineering or chemistry or equivalent; at least 3 years of practical experience in a supervisory or managerial capacity in the fertilizer industry. English.

Host institution: Institute of Nitrogen Industry
USSR Ministry for Mineral Fertilizers Production
Moscow, Union of Soviet Socialist Republics

Management of human resources development for industry

General description: The objective of the programme is to upgrade the knowledge and widen the experience of professionals responsible for the planning and co-ordination of training activities in industry in developing countries. Studies of the main topics, such as human resources planning and methodology, are complemented by study visits to educational institutions of all levels, round-table discussions and practice orientation. *Duration:* 27 June-2 August. 5 weeks. *Invited countries:* Interregional programme. *Qualification:* Degree in technology or economics or equivalent; at least 3 years of practical experience in industrial training; candidates must be responsible for the planning and co-ordination of training activities at regional or sectoral industrial level or advise the policy-making organ dealing with industrial training. English.

Host institution: Ministry of Middle and Higher Education
Institute for the Advanced Training of Managers and Specialists
Ministry of State Purchases
Moscow, Union of Soviet Socialist Republics

Maintenance des installations portuaires

Description générale: Le programme portera essentiellement sur la maintenance et la gestion des ports et comportera des exposés théoriques et des cas de démonstrations pratiques; visites suivies de discussions et d'échanges de vues professionnels. *Durée:* Juin. 4-5 semaines. *Pays invités:* Pays francophones de l'Afrique de l'Ouest et de l'Océan Indien. *Qualifications:* Ingénieur gestionnaire et haut responsable technique de port justifiant, au moins, de 5 années d'expérience pratique dans la réparation des bateaux et dans la gestion et la maintenance des installations portuaires. Français.

Organismes hôtes: Association de gestion des ports de l'Afrique de l'Ouest et du Centre (AGPAOC)
Port autonome de Marseille, France

Lieux: Marseille, France
Abidjan, Côte d'Ivoire
Lagos, Nigéria

JULY/JUILLET/JULIO

Railway track

General description: Group training programme in the field of design and maintenance of railway track to improve maintenance systems and practices of railway tracks. *Duration:* 3 July-22 September. *Invited countries:* Regional programme for Africa. *Qualifications:* Middle/senior engineers; degree in civil engineering and 3 years of experience in a railway environment or 7 years of experience as a high-level technician; good level of responsibility.

Host institutions: British Rail Training Centre
Watford, United Kingdom
Railways Training Institute
Nairobi, Kenya

Venue: United Kingdom
Kenya

Design and manufacturing of agricultural machinery

General description: With emphasis on practical training, the programme will cover operations related to casting, heat treatment, moulding, design, manufacturing process, construction and operation of agricultural machinery including walking tractors and quality control. *Duration:* July-October. 16 weeks. *Invited countries:* Interregional programme. *Qualifications:* Agricultural or mechanical engineering; 3-5 years of practical experience in manufacturing of farm machinery implements; industry supervisory responsibilities. English.

Host institution: Jiangsu Institute of Agricultural Machinery
Zhenjiang, Jiangsu, China

Maintenance engineering for iron and steel industry for Preferential Trade Area (PTA) countries

General description: Theoretical and practical training including case-studies and group work as well as study visits related to centralized and decentralized maintenance systems, planned and emergency/breakdown maintenance systems and maintenance engineering activities for mechanical, electrical and instrumentation maintenance. *Duration:* July/August. 5 weeks. *Invited countries:* Subregional programme for PTA countries. *Qualifications:* University degree in mechanical, electrical, instrumentation engineering or equivalent; 2 to 5 years of practical maintenance experience in iron and steel industry, preferably with supervisory responsibilities. English.

Host institution: Zimbabwe Iron and Steel Co.
Redcliff, Zimbabwe

Repair and maintenance of diesel engines

General description: The basic working principles, construction and general characteristics of high-speed diesel engines, the basic work involved in the assembly inspection and adjustment of such engines and the techniques of their installation, maintenance, overhaul and repair. *Duration:* July-October. 14 weeks. *Invited countries:* Interregional programme. *Qualifications:* Mechanical engineering degree; 3-5 years of experience with supervisory responsibilities in maintenance, repair and overhaul of diesel engines. English.

Host institution: Ministry of Machine Building
Shanghai Diesel Engines Works
Shanghai, China

SEPTEMBER/SEPTÉMBRE/SEPTIEMBRE

Methods and technology in the printing industry

General description: Production of newspapers, periodicals, books (including textbooks and other printed material); planning and design of printing houses; tasks and problems in the training of specialists for the graphic arts industry; standardization and quality control in the graphic arts industry. Theoretical training, study visits, practical training in plants manufacturing printing machinery and in printing houses. *Duration:* 25 September-14 October. *Invited countries:* Interregional programme. *Qualifications:* University degree in the field of printing industry or equivalent; managerial or high level technical positions in the printing industry or

senior officials of a public or private printing organization with at least 2 years of practical experience. English.

Host institution: VEB Polygraph
Leipzig, German Democratic Republic

Technology and equipment in rice-processing industry

General description: Major trends in the development of the rice-processing industry; rice-processing equipment and technology; maintenance and repair of equipment; modern silo structures; drying (technology and equipment); aspiration; pneumatic conveying systems; power supplying systems; job safety; quality control; environment protection; by-products utilization; hydrothermal treatment of grain. Lecture-type instruction, laboratory practicals, in-plant training in selected enterprises. **Duration:** 26 September-15 December. **Invited countries:** Interregional programme. **Qualifications:** University degree or equivalent; engineers and technicians with at least 3 years of practical experience in a supervisory or managerial capacity in the rice-processing industry. English.

Host institution: Institute for Advanced Training of Managers and Specialists
RSFSR Ministry of Grain Products
Moscow, Union of Soviet Socialist Republics

Fruit and vegetable processing operations for least developed countries

General description: Seminars on various subjects of fruit and vegetable technology organized on the basis of questionnaires received from participants; practical demonstration work in fruit and vegetable laboratories and pilot plants of the institute; study trips to industrial fruit and vegetable processing plants at Marmara and in the Aegean regions. **Duration:** September/October. 6 weeks. **Invited countries:** Least developed countries. **Qualifications:** Degree in food science and technology; at least 1 year of practical experience in the home country. English.

Host institution: MARMARA Scientific and Industrial Research Institute
Gebze-Kocaeli, Turkey

Iron and steel industry

General description: Theoretical and practical training and study visits with emphasis on: individual practical training in basic oxygen furnaces and slab casting; hot and cold rolling mills operation, including finishing; blast furnace operations; hot rolling mill process control; quality control; industrial safety; electrical and mechanical maintenance. **Duration:** September/December. 12 weeks. **Invited countries:** Inter-regional programme. **Qualifications:** Degree in metallurgy, chemistry, mechanical or electrical engineering; 1-5 years of practical experience in iron and steel industry; between 23 and 35 years of age. English.

Host institution: Ereğli Iron and Steel Works
Ereğli, Turkey

Iron and steel industry technology

General description: In-plant training in sintering, iron-making; oxygen-converter, electric-arc and open-hearth furnace steelmaking; ladle metallurgy; continuous steel casting; sheet and section rolling; maintenance of electrical and mechanical equipment; refractory maintenance; environmental protection; foundry practice. Theory of the technological processes involved. Study visits to a number of plants in related industries. **Duration:** September. 12-14 weeks. **Invited countries:** Inter-

regional programme. *Qualifications:* Degree in metallurgical, chemical, electrical or mechanical engineering; at least 3 years of practical experience; directly engaged in iron and steel industry. English.

Host institution: Zaporozh Steel
Zaporozhye, Ukrainian Soviet Socialist Republic

Management of medium-size industrial enterprises

General description: Lectures, guided discussions, group work, project work and visits to selected industrial plants. Seven modules: theory of management; managing the economy; production management; organization of enterprises management; management planning in administration; human resources development concepts; training of trainers. *Duration:* September/October. 6 weeks. *Invited countries:* Interregional programme. *Qualifications:* University degree preferably in technology or economics or equivalent; at least 5 years of experience in industrial management. The programme is for general managers, deputy general managers, potential general managers who by virtue of their functions can influence the formulation of plans. English.

Host institution: Centre for Professional Development (CPD)
Sofia, Bulgaria

Man-made fibres

General description: In-plant group training programme on the application of man-made fibres in textile processing; blending and quality control. *Duration:* September/October. *Invited countries:* Interregional programme. *Qualifications:* English.

Host institution: Austrian Federal Chamber of Commerce
Association of Austrian Industrialists
Höhere Bundes-Lehr-und Versuchsanstalt für Textilindustrie
Wien V
Österreichisches Chemiefaserinstitut
Vienna, Austria

Organization and management of agro-industrial enterprises

General description: Theoretical training on different aspects of agro-industrial enterprises: organization planning; management financing and investment policy; economic infrastructure. Practical training on organizational aspects of agro-industrial enterprises and food processing plants. Study visits to agro-industrial enterprises. *Duration:* September/October. 6 weeks. *Invited countries:* Interregional programme. *Qualifications:* Degree in food processing, nutrition, agricultural or chemical engineering; at least 3 years of managerial experience in food processing. English.

Host institution: Federal Centre for Agricultural and Industrial Managers' Training
Novi Sad, Yugoslavia

Petroleum refineries

General description: The objective of the programme is: to upgrade the skills of engineers, managers and senior industrial executives responsible for operations, maintenance and efficient use of energy; to identify training needs and requirements in the refineries and potential mechanisms for meeting these needs; and to assess resources available to assist refineries in implementing change. *Duration:* September. 3 weeks. *Invited countries:* Regional programme for Latin America. *Qualifications:* University degree in engineering; more than 3 years of practical

experience in refinery operations, maintenance and repair of equipment, energy saving management.

Host institution: École nationale supérieure des industries chimiques
Paris, France

Repair and maintenance of small and medium-size ships

General description: Theory in ships: materials; engines; pumps; electronics; electricity; equipment; maintenance. Practical training on a medium-size ship-wharf; building of small vessels; repairs; ship repair workshop; training on board of the ship in the port. *Duration:* September-December. *Invited countries:* Interregional programme. *Qualifications:* Engineers and technicians; at least 3 years of practical experience in maintenance and repair of small and medium-size ships. English or French.

Host institution: Antwerp Port Engineering and Consulting (APEC)
Apec, Belgium

Venue: Belgium
Asia

Small-scale foundry operations for least developed countries

General description: Seminars at the Marmara Research Institute on small-scale foundry technology; study visits to foundries near Istanbul, Ankara and Bursa. *Duration:* September/October. 3 weeks. *Invited countries:* Least developed and other selected countries. *Qualifications:* Degree in foundry or metallurgy or equivalent; senior policy and decision-makers in small-scale foundry industry. English.

Host institution: MARMARA Scientific and Industrial Research Institute
Gebze-Kocaeli, Turkey

OCTOBER/OCTOBRE/OCTUBRE

Small-scale industry consultancy

General description: The course will enable participants to define the role of small- and medium-scale enterprises in relation to the economic development of the country, to apply the skills and tools acquired in providing consultancy to small- and medium-scale enterprises, and to provide technical assistance and extension services to small- and medium-scale industries. *Duration:* October-December. 8 weeks. *Invited countries:* Least developed countries. *Qualifications:* University degree in economics, business management, industrial planning or small-scale industry; at least 3 years of practical experience in the government or private sector engaged in providing consultancy to small- and medium-scale enterprises. English.

Host institution: Institute for Small-scale Industries
University of the Philippines
Quezon City, Manila, Philippines

Small-scale power plant: design, operation and maintenance

General description: Participants from least developed countries will gain from the results achieved and the experience of a developing country; they will be provided with more working knowledge on the various aspects of energy management and efficiency and with various tools and techniques in achieving fuel efficiency and in increasing energy productivity. *Duration:* October/December. 4 weeks. *Invited countries:* Interregional programme. *Qualifications:* Degree in mechanical, electrical or chemical engineering or equivalent; at least 2 years of experience in plant or

production engineering, or consultancy in energy management at the plant level. Preference will be given to candidates who could generate a multiplier effect. English.

Host institution: Technical Assistance Council (TAC) of the Philippines
Bureau of Energy Utilization
Productivity and Development Centre
Manila, Philippines

Sugar (beet) production

General description: The programme will be carried out both in sugar plants and in a sugar research institute and consists of theoretical and specialized practical in-plant training as well as study visits and an evaluation seminar. It will deal with both economic and technical aspects, including feasibility studies, raw material surveys, maintenance, production technologies and quality control. *Duration:* October/November. *Invited countries:* Interregional programme. *Qualifications:* Degree in chemical, agricultural, mechanical or electrical engineering; at least 2 years of practical experience; presently employed in the production of sugar. English.

Host institution: Sugar Research Institute
Ankara, Turkey

**DATES NOT YET SPECIFIED/DATES NON ENCORE PRÉCISÉES/
FECHAS TODAVÍA NO DETERMINADAS**

Reconditioning of spare parts and components for agricultural machinery

General description: Theory and practice-oriented training with testing and demonstrations in workshops and industrial plants on technological processes related to reconditioning of spare parts. *Duration:* 6 weeks. *Invited countries:* Interregional programme. *Qualifications:* University degree in mechanical or related engineering or equivalent; 1-6 years of experience in production and repair of spare parts. English.

Host institution: Scientific Research and Technological Engineering Institute for
Machine Building Industry
Bucharest, Romania

**Chapter II. Training opportunities offered by institutions
other than UNIDO**

**Chapitre II. Possibilités de formation offertes par des institutions
autres que l'ONUDI**

**Capítulo II. Oportunidades de capacitación ofrecidas por instituciones
distintas de la ONUDI**

**A. DEVELOPED COUNTRIES AND AREAS /
PAYS ET ZONES DEVELOPPÉS / PAÍSES Y ZONAS DESARROLLADOS**

**1. INDUSTRIAL BRANCHES / SECTEURS INDUSTRIELS /
RAMAS INDUSTRIALES**

**Building materials industries / Industrie des matériaux de construction /
Industrias de los materiales de construcción**

L'industrie de la construction

Description générale : Recherche technique appliquée dans les domaines suivants : matériaux, structures, équipements et confort acoustique et thermique; planification des chantiers et gestion des entreprises. *Début du cours* : A arranger. *Durée* : 3 mois. *Qualifications* : Ingénieur civil ou architecte. Français, anglais, néerlandais. *Dernier délai pour la soumission des candidatures* : —. *Droit d'inscription* : A arranger.

Organisme hôte : Centre scientifique et technique de la construction
41, rue du Lombard
1000 Bruxelles, Belgique

Low-cost housing

General description: Course on housing, planning and building covering housing policies and programmes; housing of low-income groups; financing of housing; community participation and organization; housing as an evolutionary process; users and professionals in the housing process; building materials and building technologies; programming and monitoring of construction; contracting; low-cost infrastructure and sanitation; alternative techniques and managerial implications; building materials production and delivery systems. *Commencing date*: August 1989, January 1990. *Duration*: 5 months. *Qualifications*: Professional qualifications English. *Last date for receipt of applications*: 1 May, 1 October 1989, 1 May 1990. *Fee*: To be arranged.

Host institution: Institute for Housing Studies
P.O. Box 20718
3001 JA Rotterdam, Netherlands

Concrete technology

General description: Cement manufacture; aggregate production and selection; testing of raw materials for concrete laboratory and on-site concrete tests, quality control and casting

techniques; basic techniques and standard tests. *Commencing date:* To be arranged. *Duration:* 2 months. *Qualifications:* Professional qualifications. Good English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* To be arranged.

Host institution: Chattaway (UK) Training Services
Pool Chambers
26 Dam Street
Lichfield, Staffordshire WS13 6AA, United Kingdom

Construction materials

General description: Technology and testing of construction materials, including soils, cement, concrete, aggregates, asphalt. Part I covers basic technology and standard tests; part II covers more advanced technology and testing followed by individually planned programmes for each participant. *Commencing date:* Part I: 3rd week in September 1989; part II: 1st week in January 1990. *Duration:* Part I, 13 weeks; part II, 13 weeks. *Qualifications:* Technical or professional qualifications. English. *Last date for receipt of applications:* —. *Fee (provisional):* Part I: £5,650 + VAT; part II: £5,650 + VAT. (Fee includes food and accommodation.)

Host institution: Laing Technology Group Limited
Page Street
Mill Hill
London NW7 2ER, United Kingdom

Construction materials and testing

General description: Part I: Construction components: design, specification and use of construction components, timber components, roof coverings, drainage and sewage disposal, mechanical plant and mechanical handling techniques. Part II: Construction material testing: technology of testing construction materials, basic technology and standard tests. *Commencing date:* To be arranged. *Duration:* Part I: 3 months; part II: 3 months. *Qualifications:* Technical and professional qualifications. Good English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* To be arranged.

Host institution: Chattaway (UK) Training Services
Pool Chambers
26 Dam Street
Lichfield, Staffordshire WS13 6AA, United Kingdom

Infrastructure for low-cost housing

General description: Preparation and management of housing projects; water supply, sanitation and solid waste management; site preparation, access and other services; low-cost buildings. *Commencing date:* 2 January 1990. *Duration:* 12 weeks. *Qualifications:* Degree or equivalent; appropriate professional experience. English. *Last date for receipt of applications:* 30 November 1989. *Fee:* Approximately £3,800 (including residence and all meals).

Host institution: Water, Engineering and Development Centre (WEDC)
Loughborough University of Technology
Loughborough LE11 3TU, United Kingdom

Low-cost housing

General description: Scheme design, u...it detailing and technology; building materials and building technology; low-cost infrastructure layout; sanitation, water supply, sewage treatment and disposal; project and construction management; programming and monitoring of construction; site staffing and contract administration. *Commencing date:*

To be arranged. *Duration:* —. *Qualifications:* Technical and professional qualifications. Good English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* To be arranged.

Host institution: Chattaway (UK) Training Services
 Pool Chambers
 26 Dam Street
 Lichfield, Staffordshire WS13 6AA, United Kingdom

Chemical industries / Industrie chimique / Industrias químicas

Ammonia-urea (NPK) plants

General description: Quality control measures in ammonia-urea plants. *Commencing date:* Throughout the year except in July and August. *Duration:* 4-6 weeks. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* To be arranged. *Fee:* S 24,000 per week.

Host institution: Chemserv Consulting GmbH
 St. Peterstrasse 25
 4021 Linz, Austria

Management and production in ammonia plants

General description: Organization of ammonia plants; natural gas supply; desulphurization; steam reforming; Benfield system; high pressure section; synthesis loop; trip system of single train plant; revamping of NH₃ converter; start-up and shut-down system; Argon and CO₂ liquifaction plant; computer process control system; study of diverse P and I diagrams; pilot burner and auxiliary boiler; monitoring and control system of compressors and turbines; analytical control of process steps; control loops; co-operation with technical departments; inspection and revision intervals; predictive and preventive maintenance system; planning of overhaul time; data collecting and monitoring. *Commencing date:* Throughout the year except in July and August. *Duration:* 6-8 weeks. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* To be arranged. *Fee:* S 24,000 per week.

Host institution: Chemserv Consulting GmbH
 St. Peterstrasse 25
 4021 Linz, Austria

Management and production in ammonium nitrate plants

General description: Process steps; neutralization of ammonia with nitric acid; prilling and granulation techniques; study of P & I diagrams; supply of utilities; initial signal and shut-down systems; process control system; start-up and shut-down procedures; off-gas treatment. *Commencing date:* Throughout the year except in July and August. *Duration:* 4 weeks. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* To be arranged. *Fee:* S 24,000 per week.

Host institution: Chemserv Industrie GmbH
 St. Peterstrasse 25
 4021 Linz, Austria

Management and production in nitric acid plants

General description: Organization of nitric acid plants; ammonia evaporation and combustion; nitrous gases compression and absorption; cooling of absorption tower; start-up and shut-down procedures. *Commencing date:* Throughout the year except in July and August. *Duration:* 4 weeks. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* To be arranged. *Fee:* S 24,000 per week.

Host institution: Chemserv Consulting GmbH
St. Peterstrasse 25
4021 Linz, Austria

Management and production in urea plants

General description: Organization of urea plants; modification of urea prills; corrosion problems and other problems faced in urea plants; data collecting and monitoring. *Commencing date:* Throughout the year except in July and August. *Duration:* 4 weeks. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* To be arranged. *Fee:* S 24,000 per week.

Host institution: Chemserv Consulting GmbH
St. Peterstrasse 25
4021 Linz, Austria

Material testing, corrosion problems, inspecting and overhauling chemical plants

General description: Material testing; metallography; laboratory; inspection and revision. *Commencing date:* Throughout the year except in July and August. *Duration:* 4-6 weeks. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* To be arranged. *Fee:* S 24,000 per week.

Host institution: Chemserv Consulting GmbH
St. Peterstrasse 25
4021 Linz, Austria

Plastics technology

General description: Introduction (trends in polymer physics, principles of mould design), practice work in small groups (compounding, computation, controlling, injection and compression moulding), small group discussions. *Commencing date:* October. *Duration:* 7 weeks. *Qualifications:* University degree and experience in industry. English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: Austrian Laboratory for Plastics Technology LKT-TGM
(Laboratorium für Kunststofftechnik)
Wexstrasse 19-23
1200 Vienna, Austria

Polymer engineering and plastics technology

General description: Top-level courses on: plastics processing and control engineering; application engineering; quality control; polymer physics; polymer chemistry; testing; environmental technology; automation and computation; control engineering. *Commencing date:* To be arranged. *Duration:* To be arranged. *Qualifications:* Graduation and experience in industry. English, German. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: Austrian Laboratory for Plastics Technology LKT-TGM
(Laboratorium für Kunststofftechnik)
Wexstrasse 19-23
1200 Vienna, Austria

Chemical analysis of mineral samples

General description: Course and practical training in chemical analysis of ores and mineral samples: titrimetry, electrolysis, polarography, spectrophotometry, atomic absorption, fluorimetry, plasma emission spectrometry. *Commencing date:* To be arranged. *Duration:* To be arranged. *Qualifications:* Degree in chemistry. English, French, Spanish. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: Laboratoire de traitement des minerais
Université catholique de Louvain
2, place Ste-Barbe
1348 Louvain-la-Neuve, Belgium

Corrosion et lutte contre la corrosion

Description générale : Corrosion électrochimique; diagrammes d'équilibres électrochimiques; études cinétiques de la corrosion; méthodes expérimentales; théorie et applications à la lutte contre la corrosion; principes de protection et cas particuliers de corrosion. *Début du cours :* Toute l'année, sauf juillet et août. *Durée :* 2 semaines ou 3 mois. *Qualifications :* diplôme de l'enseignement universitaire ou technique supérieur. Français, anglais. *Dernier délai pour la soumission des candidatures :* —. *Droit d'inscription :* A arranger.

Organisme hôte : Centre belge d'étude de la corrosion (CEBELCOR)
2, avenue Paul Héger-Grille
1050 Bruxelles, Belgique

Pharmaceutical technology

General description: Preparation of ampoules, perfusion, solutions and ointments; study of granulation, manufacturing of capsules, tableting; control of the production of drugs; planning for production of antibiotics, sulphonamides, antiseptics; organization and starting up of semi-industrial pharmaceutical plants; visits to pharmaceutical plants. *Commencing date:* To be arranged. *Duration:* Approximately 3 months. *Qualifications:* Pharmacist, chemist or chemical engineer. English or French. *Last date for receipt of applications:* —. *Fee:* BF 40,000 (approximately).

Host institution: State University of Ghent
Department of Toxicology
Hospitaalstraat 13
9000 Ghent, Belgium

Matières plastiques

Description générale : Connaissance des plastiques; coloration; plans d'expérience; injection et extrusion des thermoplastes; contrôles et finition. *Début du cours :* A arranger. *Durée :* —. *Qualifications :* Qualifications professionnelles. Français. *Dernier délai pour la soumission des candidatures :* 2 mois avant la date de début du cours. *Droit d'inscription :* —.

Organisme hôte : ITECH Lyon
Ecole supérieure du cuir et des peintures, encres et adhésifs
(ESCEPEA)
181, avenue Jean-Jaurès
69007 Lyon, France

Peintures

Description générale : Technologie de fabrication : (1) des peintures; (2) des peintures "bâtiment"; (3) des peintures "industrielles". *Début du cours :* (1) et (2) début

septembre; (3) début janvier; *Durée* : (1) 8 mois; (2) 4 mois; (3) 4 mois.
Qualifications : Qualifications professionnelles. Français. *Dernier délai pour la soumission des candidatures* : 2 mois avant la date de début du cours. *Droit d'inscription* : —.

Organisme hôte : ITECH Lyon
Ecole supérieure du cuir et des peintures, encres et adhésifs
(ESCEPEA) 181, avenue Jean-Jaurès 69007 Lyon, France

Manufacturing processes for PVC or polyurethane-based artificial leather

General description: Manufacture, preparation of raw material, preparation and manufacture of coating substance and fleece, reversal process. *Commencing date* : —. *Duration*: 1-6 months. *Qualifications*: German, English. *Last date for receipt of applications*: —. *Fee*: To be arranged.

Organizer: Forschungsinstitut für Leder- und Kunstlederherstellung
Freiberg, German Democratic Republic
Contact address:
Intercoop
Storkowerstrasse 120
DDR-1055 Berlin, German Democratic Republic

Energy saving in injection moulding of plastics

General description: Energy usage in plastics processing; efficient use; machine/mould combination; materials; the process; energy measurements; costs; management. *Commencing date*: To be arranged. *Duration*: —. *Qualifications*: Professional qualifications. English. *Last date for receipt of applications*: —. *Fee*: To be arranged.

Host institution: TNO Plastics and Rubber Research Institute
P.O. Box 71
2600 AB Delft, Netherlands

Fertilizer industry

General description: Production planning and plant management. Latest techniques of process controls, ammonia synthesis, nitric acid and ammonium nitrate technology; instrumentation technology; pollution control, water preparation; health and safety maintenance of plant. *Commencing date*: To be arranged. *Duration*: 3 months. *Qualifications*: Professional qualifications. Good English. *Last date for receipt of applications*: 1 month before commencing date. *Fee*: To be arranged.

Host institution: Chattaway (UK) Training Services
Pool Chambers
26 Dam Street
Lichfield, Staffordshire WS13 6AA, United Kingdom

Electrical and electronic industries/Industries électriques et électroniques/ Industrias eléctricas y electrónicas

Electricité

Description générale: Sécurité et réglementation technique; utilisation des appareils de mesures des grandeurs électriques; électricité domestique; électricité industrielle, production de l'énergie électrique, machines tournantes C.C. et C.A., démarrage, régulation et automatisme, installation, mise en route, entretien, protections

électriques, phénomènes transitoires, les transformateurs, transport de l'énergie électrique, distribution, sécurité. *Début du cours* : Toute l'année sauf en juillet et août. *Durée* : —. *Qualifications* : Qualifications professionnelles. Français. *Dernier délai pour la soumission des candidatures* : —. *Droit d'inscription* : A arranger.

Organisme hôte : Centre de coopération et de recherche pédagogique et technique (CREPT)
Université du travail Paul Pastur
1, boulevard Roullier
6000 Charleroi, Belgique

Electronique

Description générale : Radio, TV : montage et fonctionnement en B.C., technique de transmission A.M., technique de transmission F.M., FM stéréo, transmission des images mouvantes, signaux vidéo et synchro, modulation, bande passante, étage de puissance, ampli vidéo, sélecteurs de canaux, entretien, réglage et réparation; téléphonie : installations téléphoniques simples, installations à circuits secondaires, installations complexes mais manuelles, installations complexes automatiques; industrielle ou de puissance : matériel de puissance à thyristors, circuits simples, variateurs de vitesse, onduleurs, hacheurs, circuits logiques, régulation, amplificateurs opérationnels. *Début du cours* : Toute l'année sauf en juillet et août. *Durée* : —. *Qualifications* : Qualifications professionnelles. Français. *Dernier délai pour la soumission des candidatures* : —. *Droit d'inscription* : A arranger.

Organisme hôte : Centre de coopération et de recherche pédagogique et technique (CREPT)
Université du travail Paul Pastur
1, boulevard Roullier
6000 Charleroi, Belgique

Microelectronics: very large scale integration (VLSI) circuits and system design

General description: MNOS and CMOS IC design; IC system design (architecture, design methodologies); CAD tools for IC design; testing ICs; "hands-on" experience: design of an IC and fabrication by silicon production facility. *Commencing date*: To be arranged. *Duration*: 12-18 months. *Qualifications*: English (French recommended). *Last date for receipt of applications*: —. *Fee*: BF 200,000 (plus cost of IC fabrication if required, BF 500,000).

Host institution: Laboratoire de micro-électronique
Université catholique de Louvain
Bâtiment Maxwell
3, place du Levant
1348 Louvain-la-Neuve, Belgium

Basic electronics

General description: Atomic theory; units of electricity; resistance circuits; electric fields and capacitance; magnetic fields; electromagnetism; alternating voltage and currents; semiconductor diodes; transistors; amplifiers; stabilized power supplies; combinational logic gates. *Commencing date*: 9 January 1989. *Duration*: 6 weeks. *Qualifications*: GCSE in mathematics and a science subject or equivalent. English. *Last date for receipt of applications*: 5 December 1988. *Fee*: £470 per week.

Host institution: Rascal Training Services Ltd.
Heckfield Place, Heckfield near Basingstoke,
Hampshire RG27 0LD, United Kingdom

Radar fundamentals

General description: High frequency propagation; the radar equation; radar parameters; transmitter theory; receiving theory; video processing; totalational displays; fixed coil displays; colour graphics; special radar types. *Commencing date:* 20 February 1989. *Duration:* 6 weeks. *Qualifications:* Basic electronics or equivalent. *Last date for receipt of applications:* 2 January 1989. *Fee:* £470 per week.

Host institution: Racal Training Services Ltd.
Heckfield Place, Heckfield near Basingstoke,
Hampshire RG27 0LD, United Kingdom

Radio fundamentals

General description: Basic receiver theory; basic transmitter theory; tuned circuits; oscillators; amplifiers; mixers; modulation; detection; timing; antenna theory. *Commencing date:* 20 February 1989. *Duration:* 6 weeks. *Qualifications:* Basic electronics or equivalent. *Last date for receipt of applications:* 2 January 1989. *Fee:* £470 per week.

Host institution: Racal Training Services Ltd.
Heckfield Place, Heckfield near Basingstoke,
Hampshire RG27 0LD, United Kingdom

Food processing industries/Industrie alimentaire/ Industrias alimentarias

Boulangerie, pâtisserie, confiserie, chocolaterie

Description générale : Hygiène en boulangerie/pâtisserie; fabrication de pains; fabrication de produits en pâte à choux ou feuilletage; fabrication de gâteaux en crème au beurre; fabrication de truffes, creux, pralines, drops et berlingots, sujets en massepain; fabrication de crèmes glacées moulées; fabrication de montage en sucre; garnitures planes, en relief; peinture sur gâteaux; garnitures sculptées; présentation artistique et de circonstance du produit. *Début du cours :* Toute l'année sauf en juillet et août. *Durée :* —. *Qualifications :* Qualifications professionnelles. Français. *Dernier délai pour la soumission des candidatures :* —. *Droit d'inscription :* A arranger.

Organisme hôte : Centre de coopération et de recherche pédagogique et technique (CREPT)
Université du travail Paul Pastur
1, boulevard Roullier
6000 Charleroi, Belgique

Industrie sucrière de la betterave et technologie de la fabrication du sucre à partir de la betterave sucrière

Description générale : Au cours de la campagne sucrière, un stage de formation technique orienté vers les aspects chimiques, technologiques et mécaniques de la fabrication du sucre au Centre de documentation technique de l'industrie sucrière : laboratoires d'analyses de contrôle de la fabrication du sucre; laboratoire de la recherche appliquée; différentes étapes de la fabrication en sucrerie et raffinerie. *Début du cours :* Octobre à décembre. *Durée :* -. *Qualifications :* Diplôme

universitaire ou équivalent. Français. *Dernier délai pour la soumission des candidatures* : —. *Droit d'inscription* : A arranger.

Organisme hôte : S.A. Société sucrière d'études et de conseils
Aandorenstraat 1
3300 Tienen, Tirlemont, Belgique

Marine fishery

General description: Modern fishing techniques and equipment; planning and management of marine resources; fish industry technologies and quality control; fish marketing organization; production and processing systems; pollution control and energy conservation; transport, distribution and export; research establishments. *Commencing date*: 13 March, 11 September. *Duration*: 3 months. *Qualifications*: Professional qualifications. English, French. *Last date for receipt of applications*: —. *Fee*: To be arranged.

Host institution: International Training and Contact (ITC)
Velodroomstraat 68
2600 Antwerp, Belgium

Meat processing

General description: Particular study on food technology, European slaughterhouses, processing plants, departments, factories and workshops; new techniques of reception, control, freezing, thawing, cutting and deboning, preparing, transformation, handling, packing, storage, transport, distribution and marketing; fresh pre-packed meat, hamburgers, meat balls, sausages; control tests, economics, management, equipment, quality assurances, suppliers, rules, future tendencies. *Commencing date*: Throughout the year. *Duration*: 4-10 weeks. *Qualifications*: Professional qualifications. English or French. *Last date for receipt of applications*: —. *Fee*: To be arranged.

Host institution: International Training and Contact (ITC)
Velodroomstraat 68
2600 Antwerp, Belgium

Automation of food production processes

General description: Analysis of, and model formation for, selected food production processes; structuring of control systems; presentation of practical examples. *Commencing date*: To be arranged. *Duration*: 3 weeks. *Qualifications*: Engineers, technologists. English. *Last date for receipt of applications*: 31 March 1989. *Fee*: To be arranged.

Host institution: Berlin Humboldt University
Unter den Linden
DDR-1086 Berlin, German Democratic Republic

Drying and ventilation equipment for cereal crops (grain and seeds)

General description: Training in operation of machines for drying and ventilation. Includes theory, laboratory work, practical exercises and technical excursions. *Commencing date*: 2 May 1989, 1990. *Duration*: 2 months. *Qualifications*: Degree or certificate in agriculture or engineering. German, English. *Last date for receipt of applications*: 5 months before commencing date. *Fee*: To be arranged.

Host institution: Ingenieurschule für Getreidewirtschaft
6600 Greiz, German Democratic Republic

Grain cleaning and processing

General description: Machines for cleaning and processing of grain, oil seeds, leguminous crops, grass seeds; theory; practice; laboratory work; technical excursions. *Commencing date:* 2 May. *Duration:* 2 months. *Qualifications:* Degree or certificate in agriculture or engineering. German, English. *Last date for receipt of applications:* 5 months before commencing date. *Fee:* To be arranged.

Host institution: Ingenieurschule für Getreidewirtschaft
6600 Greiz, German Democratic Republic

Grain conveying

General description: Operation, maintenance of continuous conveyors; theory, laboratory work, practical exercises and technical excursions. *Commencing date:* 2 May. *Duration:* 2 months. *Qualifications:* Degree or certificate in agriculture or engineering. German, English. *Last date for receipt of applications:* 5 months before commencing date. *Fee:* Approximately \$US 500 per week (accommodation and full board included).

Host institution: Ingenieurschule für Getreidewirtschaft
6600 Greiz, German Democratic Republic

Meat processing industry (technical/technological processes)

General description: Perfection of professional knowledge of managerial staff on the basis of latest scientific discoveries concerning branches of the meat processing industry through lessons, excursions and studies in plants and scientific laboratories. *Commencing date:* To be arranged. *Duration:* 6 months. *Qualifications:* Professional qualifications. German; other languages by arrangement. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: VEB Interagrarkooperation
Raschwitzstrasse 11-13
7113 Markkleeberg, German Democratic Republic

Operation of butter production plants

General description: Technological flow in the production of butter and function of all the machines in the production line, maintenance and care, small repairs; one third of the course devoted to theory, two thirds to practical work. *Commencing date:* To be arranged. *Duration:* 2 months. *Qualifications:* Professional qualifications. German and other languages. *Last date for receipt of applications:* 3 months before commencing date. *Fee:* To be arranged.

Host institution: Ingenieurschule für Milchwirtschaft
3600 Halberstadt, German Democratic Republic

Operation of cheese production plants

General description: Production of fresh, soft and hard cheeses, critical assessment of the final product, maintenance and small repairs of the plant; 5 months' training in specialized cheese production enterprises and 1 month in the engineering school. *Commencing date:* To be arranged. *Duration:* 6 months. *Qualifications:* Professional qualifications. German and other languages. *Last date for receipt of applications:* 5 months before commencing date. *Fee:* To be arranged.

Host institution: Ingenieurschule für Milchwirtschaft
3600 Halberstadt, German Democratic Republic

Operation of evaporator station in the sugar industry

General description: Deepening of theoretical knowledge about process stage evaporation, as well as the operation of the evaporator station. *Commencing date:* To be arranged. *Duration:* 2 months. *Qualifications:* Completed training in a relevant discipline. German and other languages. *Last date for receipt of applications:* 3 months before commencing date. *Fee:* To be arranged.

Host institution: Ingenieurschule für Milchwirtschaft
3600 Halberstadt, German Democratic Republic

Operation of plants for production of fresh and sour milk beverages

General description: Production technology and the function of all the machines in the production chain. Maintenance and small repairs; one third of the course devoted to theory, two thirds to practical work. *Commencing date:* To be arranged. *Duration:* 2 months. *Qualifications:* Professional qualifications. German and other languages. *Last date for receipt of applications:* 3 months before commencing date. *Fee:* To be arranged.

Host institution: Ingenieurschule für Milchwirtschaft
3600 Halberstadt, German Democratic Republic

Operation of plants for sterilized milk production

General description: Milk as a raw material, standardization, fundamentals of the plant, production, packing, quality control, preventive maintenance and repair; one third of the course devoted to theory, two thirds to practical work. *Commencing date:* To be arranged. *Duration:* 2 months. *Qualifications:* Qualifications in a relevant discipline. German and other languages. *Last date for receipt of applications:* 3 months before commencing date. *Fee:* Approximately \$US 500 per week (including accommodation and full board).

Host institution: Ingenieurschule für Milchwirtschaft
3600 Halberstadt, German Democratic Republic

Operation of vacuum evaporative crystallizer and centrifuges

General description: Quality requirements of white sugar; crystallization process and layout; molasses; set-up and function of machines and instruments and training in their operation. *Commencing date:* To be arranged. *Duration:* 2 months. *Qualifications:* Completed training in a relevant discipline. German and other languages. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: VEB Interagrarkooperation
Raschwitzerstrasse 11-13
7113 Markkleeberg, German Democratic Republic

Slaughtering of poultry and rabbits

General description: Operation, supervision and maintenance of machines and implements; securing of high profitability. *Commencing date:* To be arranged. *Duration:* 3 months. *Qualifications:* Primary school; health certificate for foodstuff industry; professional experience. German and teaching language. *Last date for receipt of applications:* 4 months before commencing date. *Fee:* To be arranged.

Host institution: AIS für Tierproduktion und Fleischwirtschaft
1400 Oranienburg, German Democratic Republic

Technical and technological management of meat industry

General description: Latest scientific and technical findings for effective production in the meat industry. Theory, technical excursions, studies at factories and scientific institutions. *Commencing date:* February. *Duration:* 6 months. *Qualifications:* University or engineering school degree; health certificate for foodstuff industry; experience in meat industry. German and teaching language. *Last date for receipt of applications:* 5 months before commencing date. *Fee:* Approximately \$US 500 per week (accommodation and full board included).

Host institution: AIS für Tierproduktion und Fleischwirtschaft
1400 Oranienburg, German Democratic Republic

Complex production technology of sugar-beet

General description: Economic evaluation of the interrelation of sugar-beet demand and supply; morphology and biology of sugar-beet; the production technology of sugar-beet. *Commencing date:* To be arranged. *Duration:* 4 months. *Qualifications:* Medium- or high-level qualifications. English, Arabic. *Last date for receipt of applications:* To be arranged. *Fee:* To be arranged.

Organizer: International Training Centre, Vép
in collaboration with
Organization for International Technical and Scientific Co-operation
(TESCO)
Rosenburg Hsp. utca 21
1051 Budapest, Hungary

Food industry products and food preservation

General description: The raw materials of plant or animal origin in the food preservation industry; the signs and causes of food deterioration; preparatory operations; preservation; canning; quality control and analysis; dairy, fruit and vegetable products technology; production of preserved food; the treatment, cold storing and transport of food industry products, the machines and equipment used, their operation. *Commencing date:* To be arranged. *Duration:* 4 months. *Qualifications:* High-level qualifications. English, Arabic. *Last date for receipt of applications:* To be arranged. *Fee:* To be arranged.

Organizer: International Training Centre, Vép
in collaboration with
Organization for International Technical and Scientific Co-operation
(TESCO)
Rosenburg Hsp. utca 21
1051 Budapest, Hungary

Processing of potatoes and apples

General description: The processing of raw materials: machines, equipment and implements; the microbiology and hygiene of fruit processing; the technology of the canning industry; preparation of dried apple. *Commencing date:* To be arranged. *Duration:* 3 months. *Qualifications:* Medium- or high-level qualifications. English, Arabic. *Last date for receipt of applications:* To be arranged. *Fee:* To be arranged.

Organizer: International Training Centre, Vép
in collaboration with
Organization for International Technical and Scientific Co-operation
(TESCO)
Rosenburg Hsp. utca 21
1051 Budapest, Hungary

Milk production and processing

General description: Training for milkmen covering: milk production; microbiology of dairy farms; milk processing. **Commencing date:** To be arranged. **Duration:** 3 months. **Qualifications:** Medium-level qualifications. English, Arabic. **Last date for receipt of applications:** To be arranged. **Fee:** To be arranged.

Organizer: International Training Centre, Vép
in collaboration with
Organization for International Technical and Scientific Co-operation
(TESCO)
Rosenburg Hsp. utca 21
1051 Budapest, Hungary

International course on agro-industry

General description: Planning aspects in rural industries; technology for the production and processing of agricultural products; management aspects in rural industries; excursions to industries and institutions. **Commencing date:** June 1989. **Duration:** 6 weeks. **Qualifications:** Bachelor's degree in agronomy or related field; at least 3 years of experience in the field. English. **Last date for receipt of applications:** 1 April 1989. **Fee:** f. 5,400.

Host institution: Koninklijk Instituut voor de Tropen (Royal Tropical Institute)
Mauritskade 63
1092 AD Amsterdam, Netherlands

Ciencia y tecnología de alimentos

Descripción general: El curso se basa en el estudio profundo de los fundamentos científicos de la tecnología de alimentos, de sus procesos industriales, de las técnicas de control de fabricación y de los problemas específicos de las principales industrias de la alimentación. Las asignaturas que se cursan son las siguientes: química de los alimentos, tecnología de la conservación de alimentos, control analítico y de calidad de alimentos, control microbiológico e higiene en la industria de alimentos; tecnologías específicas: industrialización de frutas y hortalizas, tecnología post-cosecha de los cereales. **Fecha de iniciación:** 15 septiembre. **Duración:** 10 meses. **Calificaciones:** Titulados de facultades de ciencias químicas, ciencias biológicas, farmacia, veterinaria, de escuelas técnicas superiores de ingeniería y titulados equivalentes del extranjero. Español. **Fecha límite para la recepción de las solicitudes:** Extranjeros: hasta el 31 de marzo. Españoles: hasta el 30 de junio. **Derechos de inscripción:** Ptas 80.000 para alumnos españoles, Ptas 110.000 para alumnos extranjeros; Ptas 30.000 por alumno, gastos por trabajo experimental.

Institución huésped: Instituto de Agroquímica y Tecnología (CSIC)
Jaime Roig 11
46010 Valencia, España

Especialización en grasas

Descripción general: Consta de: características generales de las grasas; análisis de las materias grasas; extracción del aceite de oliva; extracción de aceites de semillas y orujo de aceitunas; transformación de grasas comestibles y de grasas industriales. El curso constará de un mínimo de 70 horas lectivas y 150 horas de trabajos prácticos. **Fecha de iniciación:** 9 octubre 1989. **Duración:** 6 meses. **Calificaciones:** Titulación universitaria superior o titulación de grado medio. Español. **Fecha límite para la**

recepción de las solicitudes: 15 septiembre 1989. *Derechos de inscripción:* Ptas 100.000 por el curso completo o Ptas 25.000 por cada grupo aislado.

Institución huésped: Instituto de la Grasa y sus Derivados (CSIC)
Avenida Padre García Tejero 4
41012-Sevilla, España

Milling technology

General description: Wheat, rye and maize milling technology (theoretical and practical courses); basic scientific subjects relating to milling technology (theoretical and practical courses); physics and mathematics with the main sub-units in pneumatics, electrotechnics and programmable control systems; course also covers brewing technology and oat milling techniques as well as technical drawing and plant management. *Commencing date:* 1st Monday in September. *Duration:* 10 months. *Qualifications:* Professional qualifications. German, English. *Last date for receipt of applications:* 1 year in advance. *Fee:* SwF 2,100.

Host institution: The Swiss School of Milling
Tellstrasse 2
9000 St. Gallen, Switzerland

Farm machinery operation and maintenance

General description: Structure, field operation and routine maintenance of tractors and a range of commonly used machines. Participants spend one third of their time dismantling, reassembling, adjusting and maintaining machines, one third operating the same machines in the field, and one third learning to pass these skills on to others. Extensive information about the machines is provided so that participants can spend their time in "hands-on" activities. *Commencing date:* July. *Duration:* 3 weeks. *Qualifications:* English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* To be arranged.

Host institution: Professional Development Centre
Silsoe College, Silsoe, Bedford MK45 4DT, United Kingdom

Food processing and technology

General description: Fruit and vegetable processing-preservation laboratory techniques developed to industrial use; quality control methods; understanding and combating biodeterioration; microbial and chemical spoilage; nutritional values of local foods in the tropics, their processing; fish preservation techniques; storage transport and international legal aspects; small-scale processing in the tropics for village industries; technology of fermentation with use of computers. *Commencing date:* To be arranged. *Duration:* 12 or 24 weeks. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* To be arranged.

Host institution: Nutrition and Food Group, Department of Science
Bristol Polytechnic, Coldharbour Lane
Bristol BS16 1QY, United Kingdom

Industrial attachment and processing skills in the food industry

General description: Modular approach to short course training in: quality control; trading standards; refrigeration; biotechnology in food industries; village level processing of cassava and products; food hygiene standards and skills; canning, bottling, cook-chill; freeze-dried preparations; fermentation in basic processing.

Commencing date: To be arranged. **Duration:** 12 or 24 weeks. **Qualifications:** Professional qualifications. English. **Last date for receipt of applications:** 1 month before commencing date. **Fee:** To be arranged.

Host institution: Nutrition and Food Group, Department of Science
Bristol Polytechnic, Coldharbour Lane
Bristol BS16 1QY, United Kingdom

**Leather and leather products industries/
Industrie du cuir et des articles en cuir/
Industrias del cuero y de los productos de cuero**

Chimie et technologie de la fabrication du cuir

Description générale : Composition et structure de la peau, conservation, défauts, étude détaillée des travaux de rivière; tannages chrome, végétal, fourrure; opérations après tannage; finissage des cuirs, machines de tannerie, épuration des eaux; méthodes de fabrication des différents types de cuirs. Laboratoire d'analyses chimiques et d'essais physiques : produits utilisés en tannerie, eaux, cuirs, contrôle des opérations de fabrication des cuirs. Atelier de fabrication des principaux types de cuirs; préparation d'un mémoire sur une fabrication choisie par le stagiaire. **Début du cours :** Septembre. **Durée :** 9 mois. **Qualifications :** Qualifications professionnelles. Français. **Dernier délai pour la soumission des candidatures :** 25 juin. **Droit d'inscription :** FB 80 000.

Organisme hôte : Ecole belge de tannerie
6, quai Gloesmer
4020 Liège, Belgique

Fabrication du cuir, du brut à l'entrée au finissage

Description générale : Technologie et applications de fabrication du brut à l'entrée au finissage (stade m.-fini). Bovins, ovins, caprins. Tannages chrome et végétal; retannages, teintures. **Début du cours :** Début septembre. **Durée :** 14 semaines. **Qualifications :** Qualifications professionnelles. Français. **Dernier délai pour la soumission des candidatures :** 2 mois avant la date de début du cours. **Droit d'inscription :** FF 25 000.

Organisme hôte : Ecole supérieure du cuir et des peintures, encres et adhésifs
(ESCEPEA)
181, avenue Jean-Jaurès 69007 Lyon, France

Finissage du cuir

Description générale : Technologie et applications; matières premières; construction des finissages, nuancages; finissages des fleurs corrigées, des pleines fleurs satinées, des pleines fleurs lissées. **Début du cours :** Début janvier. **Durée :** 6 semaines. **Qualifications :** Qualifications professionnelles. Français. **Dernier délai pour la soumission des candidatures :** 2 mois avant la date de début du cours. **Droit d'inscription :** FF 16 000.

Organisme hôte : Ecole supérieure du cuir et des peintures, encres et adhésifs
(ESCEPEA)
181, avenue Jean-Jaurès 69007 Lyon, France

Technologie du cuir

Description générale : Formation professionnelle de niveau moyen destinée à des responsables d'atelier qui souhaitent perfectionner leurs connaissances pratiques et acquérir les bases théoriques du métier de tanneur, de la peau brute au cuir fini; contrôles physiques et chimiques; matériel de tannerie. *Début du cours* : Début septembre. *Durée* : 9 mois. *Qualifications* : Qualifications professionnelles. Français. *Dernier délai pour la soumission des candidatures* : 15 juin. *Droit d'inscription* : FF 29 700.

Organisme hôte : Ecole supérieure du cuir et des peintures, encres et adhésifs (ESCEPEA)
181, avenue Jean-Jaurès 69007 Lyon, France

Leather manufacturing and finishing processes

General description: Raw hide and its economic use; rational execution of liquor process; environmental protection and design. *Commencing date*: —. *Duration*: 1-6 months. *Qualifications*: Professional qualifications. German, English. *Last date for receipt of applications*: —. *Fee*: To be arranged.

Organizer: Forschungsinstitut für Leder- und Kunstlederherstellung
Freiberg, German Democratic Republic
Contact address:
Intercoop
Storkowerstrasse 120
DDR-1055 Berlin, German Democratic Republic

Shoe design and construction

General description: Science of colours; last and shoe construction, practical training. *Commencing date*: —. *Duration*: Generally 3 months. *Qualifications*: Professional qualifications. German, English. *Last date for receipt of applications*: —. *Fee*: To be arranged.

Organizer: Ingenieurschule für Lederverarbeitungstechnik
Weissenfels, German Democratic Republic
Contact address:
Intercoop
Storkowerstrasse 120
DDR-1055 Berlin, German Democratic Republic

Leather quality control

General description: Theoretical and practical training in laboratories covering both the physical and chemical quality control of leather and leather goods, as well as environmental goods and environmental control activities. *Commencing date*: 3 April, 4 September. *Duration*: 13 weeks. *Qualifications*: Bachelor's degree in chemical engineering or equivalent. English. *Last date for receipt of applications*: 3 months before commencing date. *Fee*: To be arranged.

Host institution: TNO Leather and Shoe Research Institute
Mr van Coothstraat 55
5141 ER Waalwijk, Netherlands

Leather technology

General description: Technical training courses for work and department managers in leather-producing factories (tanneries). Practical training in manufacturing the

desired types of leather, with emphasis on the chemico-technological aspect, mechanical operations and environmental problems. Attention is given to knowledge of sorting and judging hides and skins, and semi-manufactured and finished leather. Training in mechanical operations includes knowledge and maintenance of machines and safety measures. A theoretical course can also be taken. *Commencing date:* 3 April, 4 September. *Duration:* 13 weeks. *Qualifications:* Professional qualifications. *Last date for receipt of applications:* 3 months before commencing date. *Fee:* To be arranged.

Host institution: TNO Leather and Shoe Research Institute
Mr van Coothstraat 55
5141 ER Waalwijk, Netherlands

Shoe designing and pattern cutting

General description: Sizing systems, insole design and pattern cutting, upper design and pattern cutting, design and pattern cutting of different types of shoes, grading of upper and insole patterns, pattern cutting and the making of a shoe up to bottoming. *Commencing date:* 3 April, 4 September. *Duration:* 13 weeks. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* 3 months before commencing date. *Fee:* To be arranged.

Host institution: TNO Leather and Shoe Research Institute
Mr van Coothstraat 55
5141 ER Waalwijk, Netherlands

Leather technology

General description: A detailed advanced course dealing with all areas of leather manufacture (processing) from raw material to finished leather; chemical and physical testing; engineering and chemical engineering. *Commencing date:* 19 September 1989. *Duration:* Up to 2 years. *Qualifications:* Professional qualifications and industrial experience. English. *Last date for receipt of applications:* 10 September 1989. *Fee:* £3,700 per year.

Host institution: National Leather Sellers Centre
Nene College
Moulton Park, Northampton NN2 7AL, United Kingdom

Mechanical and metalworking industries/ Industrie de construction mécanique et de transformation de métaux/ Industrias mecánicas y de transformación de metales

Carrosserie

Description générale : Tôlerie : travail des tôles — traçage, découpage, marquage; dressage des tôles; cintrage, pliage et mise en forme des surfaces; non développables; emboutissage; rapiécage; débosselage; réglage, pinçage, carrossage, chasse; dégarnissage, regarnissage; sécurité. Peinture : hygiène du métier; préparation des surfaces; mastiquage, ponçage, surfacage, polissage; colorimétrie; défauts; peinture sur métaux non ferreux et éléments polyesters; peinture en cabine. *Début du cours :* Toute l'année sauf en juillet et août. *Durée :* —. *Qualifications :* Qualifications professionnelles. Français. *Dernier délai pour la soumission des candidatures :* —. *Droit d'inscription :* A arranger.

Organisme hôte : Centre de coopération et de recherche pédagogique et technique (CREPT)
Université du travail Paul Pastur
1, boulevard Roullier
6000 Charleroi, Belgique

Construction métallique

Description générale : Evaluation de la formation de base; répétition éventuelle des connaissances de base; lecture de plans; métrologie; postes de travail; matériel; contrôle du matériel; sécurité; entretien. *Début du cours* : A arranger. *Durée* : 3 mois. *Qualifications* : Qualifications professionnelles. Français, anglais ou néerlandais. *Dernier délai pour la soumission des candidatures* : —. *Droit d'inscription* : A arranger.

Organisme hôte : Spoorvegmateriel en Metaalconstructies, BN
Vaardijkstraat 5
8200 Brugge, Belgique

Construction métallique soudage

Description générale : Soudage oxyacétylénique; oxycoupage; soudo-brasage; soudage à l'arc et sous protection gazeuse; rechargement, remplissage, gougeage; soudage des matières plastiques; défaut et contrôle des soudures; ponts et charpentes : assemblages, poutres, colonnes; tuyauterie; chaudière et réservoirs; pliage, forage, grignotage; sécurité. *Début du cours* : Toute l'année sauf en juillet et août. *Durée* : —. *Qualifications* : Qualifications professionnelles. Français. *Dernier délai pour la soumission des candidatures* : —. *Droit d'inscription* : A arranger.

Organisme hôte : Centre de coopération et de recherche pédagogique et technique
(CREPT)
Université du travail Paul Pastur
1, boulevard Roullier
6000 Charleroi, Belgique

Machines-outils

Description générale : Prévention des accidents de travail; tour parallèle, travaux entre-pointes; travaux en l'air contrôle dimensionnel; centre d'usinage à commande numérique, programmation pour le fraisage, forage, lamage, taraudage, alésage. *Début du cours* : Toute l'année sauf en juillet et août. *Durée* : —. *Qualifications* : Qualifications professionnelles. Français. *Dernier délai pour la soumission des candidatures* : —. *Droit d'inscription* : A arranger.

Organisme hôte : Centre de coopération et de recherche pédagogique et technique
(CREPT)
Université du travail Paul Pastur
1, boulevard Roullier
6000 Charleroi, Belgique

Mécanique automobile

Description générale : Sécurité et hygiène au garage; pose et dépose, entretien, réglage et réparation des organes de véhicules automobiles à essence ou diesels; électricité automobile; allumage électronique; organisation du travail dans un garage; schémas d'implantation. *Début du cours* : Toute l'année sauf en juillet et août. *Durée* : —. *Qualifications* : Qualifications professionnelles. Français. *Dernier délai pour la soumission des candidatures* : —. *Droit d'inscription* : A arranger.

Organisme hôte : Centre de coopération et de recherche pédagogique et technique
(CREPT)
Université du travail Paul Pastur
1, boulevard Roullier
6000 Charleroi, Belgique

Mécanique d'entretien

Description d'entretien : Sécurité, hygiène; utilisation correcte des outils à main; alésage, filetage, taraudage, grattage, forage, affûtage, tournage, fraisage; tolérance; traitements thermiques; contrôle dimensionnel et de qualité; métrologie, essais des matériaux; lubrification; montage et démontage d'ensembles mécaniques; utilisation, placement, extraction et réparations de goujons, de clavettes; entretien et remplacement de roulements à billes; commande hydraulique et pneumatique des machines. *Début du cours* : Toute l'année sauf en juillet et août. *Durée* : —. *Qualifications* : Qualifications professionnelles. Français. *Dernier délai pour la soumission des candidatures*. —. *Droits d'inscription* : A arranger.

Organisme hôte : Centre de coopération et de recherche pédagogique et technique (CREPT)
Université du travail Paul Pastur
1, boulevard Roullier
6000 Charleroi, Belgique

Computer-numerical-control machine tool technology and practice

General description: The course aims at providing engineering graduates with a sound knowledge, based on student practical involvement, with the uses, programming, operation and maintenance aspects of CNC/NC machine tools technology and practice. *Commencing date*: 1 October 1989. *Duration*: 9 months. *Qualifications*: Hong Kong Polytechnic Higher Certificate in production and industrial engineering or equivalent. English, Cantonese. *Last date for receipt of applications*: 1 May 1989. *Fee*: \$HK 1,450.

Host institution: Industrial Centre, Hong Kong Polytechnic
Hungom
Kowloon, Hong Kong

Plastic tooling technology and practice

General description: Plastics tooling technology; mould and die manufacturing processes; mould and die finishing processes; plastics mould and die design practice. *Commencing date*: 1 October 1989. *Duration*: 9 months. *Qualifications*: Hong Kong Polytechnic Higher Certificate in production and industrial engineering or Higher Certificate in mechanical engineering with suitable working experience or equivalent. English, Cantonese. *Last date for receipt of applications*: 1 May 1989. *Fee*: \$HK 1,450.

Host institution: Industrial Centre, Hong Kong Polytechnic
Hungom
Kowloon, Hong Kong

Welding technology and practice

General description: Welding technology; welding processes and practice; welding management and quality control. *Commencing date*: 1 October 1989. *Duration*: 9 months. *Qualifications*: Hong Kong Polytechnic Higher Certificate in production and industrial engineering or equivalent. English, Cantonese. *Last date for receipt of applications*: 1 May 1989. *Fee*: Approximately \$HK 1,450.

Host institution: Industrial Centre, Hong Kong Polytechnic
Hungom
Kowloon, Hong Kong

Advanced NC/CNC lathe machines programming

General description: Computer part programming for numerically controlled lathe machines, POUT-APT system; effective use of postprocessor programmes; adaptive control and optimization of cutting parameters for turning. *Commencing date:* To be arranged. *Duration:* 4 months. *Qualifications:* Degree in mechanical engineering. English. *Last date for receipt of applications:* 3 months before commencing date. *Fee:* To be arranged.

Host institution: Association of Polish Mechanical Engineers and Technicians (SIMP)
Staff Upgrading Centre
Mickiewicza 9
01-517 Warsaw, Poland

Advanced NC/CNC milling machines programming

General description: Computer part programming for NC, CNC and DNC milling machines with 3-axis control, POUT-APT system; effective use of postprocessor programmes; adaptive control and optimization of cutting parameters for milling. *Commencing date:* To be arranged. *Duration:* 4 months. *Qualifications:* Degree in mechanical engineering. English. *Last date for receipt of applications:* 3 months before commencing date. *Fee:* To be arranged.

Host institution: Association of Polish Mechanical Engineers and Technicians (SIMP)
Staff Upgrading Centre
Mickiewicza 9
01-517 Warsaw, Poland

Chipless treatment technology

General description: The course consists of 4 modules: (1) foundry; (2) plastic forming of metals including forging; (3) welding technology; (4) plastics processing. Each module covers materials, related technology, required equipment and machines, testing and quality inspection, safety of work, workshop practice. *Commencing date:* To be arranged. *Duration:* 2½ months. *Qualifications:* Mechanical engineers and technicians. English. *Last date for receipt of applications:* 2 months before commencing date. *Fee:* To be arranged.

Host institution: Association of Polish Mechanical Engineers and Technicians (SIMP)
Staff Upgrading Centre
Mickiewicza 9
01-517 Warsaw, Poland

Transport and automotive technology

General description: Short and long training courses at all levels on: heavy duty mechanics; auto mechanics; body repair and spray-painting; store- and stock-handling with computerized systems; administration and office automation and rationalization. *Commencing date:* September. *Duration:* —. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* —.

Host institution: AMU International
S. Bulltofv. 21
212 22 Malmö, Sweden

CNC machining

General description: Comprehensive training programme giving a full appreciation of CNC of machine tools in both 2- and 3-axis machines (i.e. turning and milling) incorporating 4 different control systems. *Commencing date:* To be arranged. *Duration:* 12 weeks. *Qualifications:* English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* £235 plus VAT per week.

Host institution: East Kilbride Training Association Ltd.
3 Law Place
Nerston Industrial Estate
East Kilbride G74 4PP, Scotland, United Kingdom

Machining processes

General description: Practical training in the skilful operation of machine tools, including: centre lathes; horizontal and vertical milling machines; surface grinding; shaping machines. *Commencing date:* February, August. *Duration:* 13 weeks. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* —. *Fee:* —.

Host institution: Metcon Training
14 Pall Mall
London, United Kingdom

Manufacturing systems and technology

General description: Postgraduate diploma programme on: integrated systems in manufacturing; computerized systems in manufacturing; MRP, MRP II, MPS; micro-electronics in the design of products; robotics and robot assembly; computer technology; mainframes, minis and micros; programming language appreciation; data base and computer systems communications management; elements of micro computers; business strategy; marketing, research and development; man management; industrial and human relations; management methodology; management accounting; budgeting and project appraisal; managerial and corporate economic policies. *Commencing date:* Throughout the year. *Duration:* 4-20 weeks. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: The Institute of Production Control
Westminster House
Wood Street, Stratford-on-Avon,
Warwickshire CV37 6JF, United Kingdom

Marine, shipbuilding and ship repair technology

General description: Manufacturing methods and procedures; computer applications in the marine industry; supervisory skills needed in the implementation of new methods and techniques; management training; cost estimating and material and cost control; manufacturing technology; production design; quality assurance and accuracy control; occupational health and safety. *Commencing date:* To be arranged. *Duration:* 14 weeks. *Qualifications:* Technical or professional qualifications. English. *Last date for receipt of applications:* 3 months before commencing date. *Fee:* To be arranged.

Host institution: AMARC (T.E.S.) Ltd.
Ellison Street, Hebburn,
Tyne and Wear NE31 1YN, United Kingdom

Practical engineering broad based training

General description: Drawing appreciation including CAD, metrology, machining processes (CNC 2- and 3-axis), toolmaking, electronics, welding and fabrication. *Commencing date:* To be arranged. *Duration:* 36 weeks. *Qualifications:* English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* £3,500 plus VAT.

Host institution: East Kilbride Training Association Ltd.
3 Law Place
Nerston Industrial Estate
East Kilbride G74 4PP, Scotland, United Kingdom

Railway civil engineering programme for overseas administrations

General description: Covers both management and practical aspects of the design and maintenance of railway track and structures, with particular emphasis on techniques for the rehabilitation of permanent way and the problems of developing countries. *Commencing date:* 14 January 1990. *Duration:* 12 weeks. *Qualifications:* Degree or equivalent; 3 years of experience in civil engineering. English. *Last date for receipt of applications:* 1 October 1989. *Fee:* £5,800.

Host institution: British Rail, Transmark, Overseas Training Unit
Railway Engineering School
London Road
Derby DE2 8UX, United Kingdom

Shipbuilding and ship repair

General description: Specialized courses offered in: advanced production methods; outfit and production technology; coating (paint) technology; integral design and production systems; regulations in plan preparation (Steelwork Drawings Development); ship repairs; ship surveying; clarification of society rules and regulations; hand, automatic and semi-automatic welding processes and techniques; modern pipework material and production methods; non-destructive testing; heat line forming techniques. *Commencing date:* To be arranged. *Duration:* To be arranged. *Qualifications:* Technical or professional qualifications. English. *Last date for receipt of applications:* 3 months before commencing date. *Fee:* To be arranged.

Host institution: AMARC (T.E.S.) Ltd.
Ellison Street, Hebburn,
Tyne and Wear NE31 1YN, United Kingdom

Welding

General description: Practical training in various forms of welding processes to a variety of international standards. *Commencing date:* February, August. *Duration:* 13 weeks. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* —. *Fee:* —.

Host institution: Metcon Training
14 Pall Mall
London, United Kingdom

Welding technology and inspection

General description: Specializes in the design, metallurgical processes and inspection aspects of welds. Practical case-study work gives examples of the application of theory in an industrial environment. *Commencing date:* Throughout the year.

Duration: 2-4 weeks. *Qualifications:* Experience in welding industry. *Last date for receipt of applications:* —. *Fee:* £320-£600.

Host institution: Scottish School of Non-Destructive Testing
Paisley College
High Street
Paisley PA1 2BE, Scotland, United Kingdom

Metallurgical industries/*Industrie métallurgique*/ Industrias metalúrgicas

Testing at foundries

General description: Training in modern techniques of testing casting materials; training in modern techniques of analysing the structure and texture of casting alloys; testing of mould materials at foundries; casting behaviour and properties of casting materials. *Commencing date:* To be arranged. *Duration:* 1-4 weeks. *Qualifications:* Foundry engineers and materials technologists. English. *Last date for receipt of applications:* 31 March 1989. *Fee:* To be arranged.

Host institution: Mining Academy in Freiberg
Akademiestrasse 6
9200 Freiberg, German Democratic Republic

Heat treatment technology

General description: Theory of metallic materials; fundamentals of heat treatment; related technology; applied technology of heat treatment. *Commencing date:* 9 March 1989. *Duration:* 3 months. *Qualification:* Degree in mechanical or metallurgical engineering or equivalent; at least 2 years of experience; under 35 years of age. *Last date for receipt of applications:* 9 January 1989. *Fee:* —.

Organizer: Nagoya Municipal Industrial Research Institute
Contact address:
Japan International Co-operation Agency (JICA)
Training Affairs Department
Shinjuku-Mitsui Building, 48th floor
1, 2-chome, Nishi Shinjuku, Shinjuku-ku
Tokyo 160, Japan

Productivity improvement in the foundry industry

General description: Outline of foundry industry in Japan; problems faced by the foundry industry in member countries; fundamentals of casting; patterns; melting and pouring; moulding sands and processes; core-making; heat treatment; remedies for defective casting; environment and safety. *Commencing date:* To be arranged. *Duration:* 4 weeks. *Qualifications:* Engineers in charge of foundry operations and technical consultants of national productivity organizations or similar institutes providing technical guidance in foundry operations, in APO member countries. *Last date for receipt of applications:* 3 months before commencing date. *Fee:* \$US 100 per participant from profit-making organizations.

Organizer: Asian Productivity Organization (APO)
4-14 Akasaka 8-chome
Minato-ku
Tokyo, 107 Japan

Venue: Japan

Design and manufacture of cast spare parts

General description: Management of spare parts; choice of cast materials; choice of foundry technology for the manufacture of spare parts; elaboration of technology; practical aspects of the manufacture of spare parts; economic aspects of the manufacture of spare parts under local conditions. *Commencing date:* September. *Duration:* 9 weeks. *Qualifications:* Maintenance or foundry engineers. English. *Last date for receipt of applications:* June. *Fee:* —.

Host institution: Instytut Odlewnictwa (Foundry Research Institute)
Zakopiańska 73
30-418 Kraków, Poland

Foundry technology

General description: In-plant group training programme for a maximum of 10 participants covering: melting processes of cast steel, cast-iron and non-ferrous metals; classical and modern foundry technologies; moulding and auxiliary materials; quality control of foundry processes; foundry control and measuring apparatus; environmental control activities. *Commencing date:* To be arranged. *Duration:* —. *Qualifications:* Degree in foundry or metallurgy or equivalent; practical experience. English, French. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* To be arranged.

Organizer: Foundry Research Institute
Contact address:
Office for the Promotion of Progress in Science,
Technology and Development
Wspolna 1/3
00-529 Warsaw, Poland

Heat treatment of different types of steel and cast iron

General description: Programme for a maximum of 25 participants covering: carburizing, austenitic carbonitriding, nitriding and its modifications, controlled gas atmospheres, diffusion boriding, production of layers of titanium, chromium, and other metals carbides, production of anticorrosion metal coatings by dip aluminizing and vacuum diffusion chromizing. *Commencing date:* To be arranged. *Duration:* 1 month. *Qualifications:* Engineers and technicians acquainted with heat treatment methods; practical experience. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* To be arranged.

Organizer: Institute of Precision Mechanics
Contact address:
Office for the Promotion of Progress in Science,
Technology and Development
Wspolna 1/3
00-529 Warsaw, Poland

Metallurgy

General description: Extractive metallurgy; physical metallurgy, control and measurements; chemical analysis, technical and economic information. *Commencing date:* To be arranged. *Duration:* 1 month. *Qualifications:* Degree in metallurgy or equivalent; practical experience. English (French, Italian and Spanish for selected

areas). *Last date for receipt of applications:* 1 month before commencing date. *Fee:* To be arranged.

Organizer: Institute of Ferrous Metallurgy
Contact address:
Office for the Promotion of Progress in Science, Technology and
Development
Wspolna 1/3
00-529 Warsaw, Poland

Modern electroplating processes

General description: Programme for a maximum of 30 participants. Principles of corrosion protection, methods of surface preparation, electrolytic deposition of zinc, tin, cadmium, copper, nickel, chromium, silver, gold and alloys, electroforming (galvanoplastics), chromating, phosphatizing, sewage treatment, measurement of coating thickness, control of porosity and adhesion, industrial safety in electroplating processes. *Commencing date:* To be arranged. *Duration:* 4-6 months. *Qualifications:* Engineers having practical experience with electroplating processes. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* To be arranged.

Organizer: Institute of Precision Mechanics
Contact address:
Office for the Promotion of Progress in Science, Technology and
Development
Wspolna 1/3
00-529 Warsaw, Poland

Modern electroplating technology

General description: Technology of modern metal finishing by electroplating; electroless plating; plating of plastics; chromium plating; aluminium anodizing; surface colouring; pollution control; occupational safety; management of industrial electroplating workshops. *Commencing date:* To be arranged. *Duration:* 2 months. *Qualifications:* Engineers and technicians. English. *Last date for receipt of applications:* 2 months before commencing date. *Fee:* To be arranged.

Organizer: Association of Polish Mechanical Engineers and Technicians (SIMP)
Staff Upgrading Centre
Mickiewicza 9
01-517 Warsaw, Poland

Modern heat treatment technologies

General description: Programme for a maximum of 25 participants covering various heat treatment processes, selected methods and problems encountered as well as related activities. *Commencing date:* To be arranged. *Duration:* 2 months. *Qualifications:* Engineers and technical workers directly or indirectly concerned with problems of heat treatment of metals; practical experience. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* To be arranged.

Organizer: Institute of Precision Mechanics
Contact address:
Office for the Promotion of Progress in Science, Technology and
Development
Wspolna 1/3
00-529 Warsaw, Poland

Modern technology of metal heat treatment

General description: Materials; volume heat treatment; treatment of tool steel; heat treatment in gas environment and in vacuum conditions; heat-chemical treatment; surface heat treatment with related industrial practice. *Commencing date:* to be arranged. *Duration:* 1 month. *Qualifications:* Degree in engineering; some experience in the field of heat treatment. *English.* *Last date for receipt of applications:* 2 months before commencing date. *Fee:* To be arranged.

Host institution: Association of Polish Mechanical Engineers and Technicians
(SIMP)
Staff Upgrading Centre
Mickiewicza 9
01-517 Warsaw, Poland

Non-ferrous metals processing

General description: The course for a maximum of 10 participants covering all processing metallurgy of non-ferrous metals, metalworking, powder metallurgy and environmental control activities. *Commencing date:* April, September. *Duration:* 1-3 months. *Qualifications:* Degree in non-ferrous metals processing; technical and practical experience. *English.* *Last date for receipt of applications:* 1 month before commencing date. *Fee:* To be arranged.

Organizer: Institute of Non-Ferrous Metals
Contact address:
Office for the Promotion of Progress in Science, Technology and
Development
Wspolna 1/3
00-529 Warsaw, Poland

Foundry technology

General description: Basic principles of metal founding and their application to the production and user industries; the effect of casting design and material selection in the successful application of finished products; foundry principles in relation to specific processes in the manufacture and use of castings. *Commencing date:* February, August. *Duration:* 13 weeks. *Qualifications:* Professional qualifications. *English.* *Last date for receipt of applications:* —. *Fee:* —.

Host institution: Metcon Training
14 Pall Mall
London, United Kingdom

Packaging industries/Industrie de l'emballage/ Industrias relacionadas con el embalaje

Application des matières plastiques dans l'emballage et le conditionnement (y compris les tuyaux)

Description générale : Les polymères utilisables dans le conditionnement et l'emballage; leurs diverses propriétés chimiques, physiques, rhéologiques; le conditionnement des produits chimiques, bidons, fûts et réservoirs; le transport des eaux résiduaires, le flaconnage alimentaire et industriel; travaux de laboratoire; visites d'usines et d'industries alimentaires; l'emballage alimentaire; notions de toxicologie; l'étude de la migration des adjuvants (méthodes et analyses); le transport de l'eau potable (contrôle de migration); l'élimination des déchets de l'emballage en matières

plastiques (pollution de l'air et du sol — biodégradabilité). *Début du cours* : Toute l'année sauf juillet et août. *Durée* : 6 mois-1 an. *Qualifications* : Ingénieur chimiste, licencié en sciences pharmaceutiques. Français. *Dernier délai pour la soumission des candidatures* : —. *Droit d'inscription* : A arranger.

Organisme hôte : Centre d'études des matières plastiques
Université de Liège
2, rue Armand-Stevaert
4000 Liège, Belgique

Emballage

Description générale : Les matières premières; le carton ondulé et son utilisation; le carton plat et son utilisation; les emballages en bois; les fûts, bidons, jerrycans, boîtes métalliques, rails; les films en matière plastique et les complexes; les sacs industriels; les sollicitations lors du transport; essais sur emballages; méthodes d'essais; appareils, normes, contrôle de la qualité; les accessoires d'emballages; le transport des marchandises dangereuses; la corrosion; les machines d'emballages; visites d'usines et canaux de distribution. *Début du cours* : A arranger. *Durée* : 3 mois en moyenne. *Qualifications* : Degré universitaire. Français ou anglais. *Dernier délai pour la soumission des candidatures* : —. *Droit d'inscription* : A arranger.

Organisme hôte : Institut belge de l'emballage
15, rue Picard
1020 Bruxelles, Belgique

Packaging design

General description: Briefing; research; marketing and production considerations; protection; legal requirements; prototyping; new processes and materials; adaptation of old; design costing, development and management. Includes visits to factories and printers. *Commencing date*: To be arranged. *Duration*: 3-6 months. *Qualifications*: Qualifications in design. English. *Last date for receipt of applications*: —. *Fee*: £1r 450 per week (including bed and board).

Host institution: Kilkenny Design
Kilkenny, Ireland

Packaging design and engineering

General description: Lectures, discussions, exercises and visits related to: packaging and distribution; physical distribution costs; packaging planning and design; the unit-load system; packaging materials, methods and machinery; materials handling, package testing and quality control; standardization in packaging. *Commencing date*: —. *Duration*: 3 weeks. *Qualifications*: Packaging engineers in industry and technical consultants of national productivity organizations or similar institutes of APO-member countries. English. *Last date for receipt of applications*: 3 months before commencing date. *Fee*: \$US 100 for participants from profit-making organizations.

Organizer: Asian Productivity Organization (APO)
4-14 Akasaka 8-chome
Minato-ku
Tokyo, 107 Japan

Venue: Malaysia

Packaging engineering

General description: Packaging materials; transport packaging techniques; consumer packaging techniques. *Commencing date:* 23 January 1989. *Duration:* 2 months. *Qualifications:* University degree or equivalent; at least 3 years of experience; under 40 years of age. English. *Last date for receipt of applications:* —. *Fee:* —.

Organizer: Japan Packaging Institute
Contact address:
Japan International Co-operation Agency (JICA)
Training Affairs Department
Shinjuku-Mitsui Building, 48th floor
1, 2-chome, Nishi Shinjuku, Shinjuku-Ku
Tokyo 160, Japan

Packaging technology

General description: Agricultural packaging; dangerous goods packaging; industrial packaging; retail packaging; packaging testing and research; quality control. *Commencing date:* To be arranged. *Duration:* —. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: TNO Packaging Research Institute
P.O. Box 169
2600 AD Delft, Netherlands

Textile industries/Industrie textile/Industrias textiles

Industrie textile

Description générale : Fabrication : fibres, filature, bonneterie, tissage, examens de laboratoire, contrôle de la qualité en laboratoire, réparation et entretien des machines. Matières premières : fibres naturelles animales, végétales, fibres artificielles, fibres synthétiques. *Début du cours :* Toute l'année sauf juillet et août. *Durée :* —. *Qualifications :* Qualifications professionnelles. Français. *Dernier délai pour la soumission des candidatures :* —. *Droit d'inscription :* FB 20 000 par mois.

Organisme hôte : Centre de recherche et de contrôle lainier et chimique (CELAC)
Zoning de Petit Rechain
69H, avenue du Parc 4655 Chaineux, Verviers, Belgique

Textiles

Description générale : Métrologie des caractéristiques des fibres, fils et tissus; filature de coton et de laine, processus de tissage; procédés de tricotage; examen de l'évolution des études en cours dans les laboratoires de recherche textile (coton, laine, lin, fibres chimiques); aide technique aux moyennes et petites entreprises textiles. *Début du cours :* Toute l'année sauf juillet et août. *Durée :* 3-6 mois. *Qualifications :* Qualifications professionnelles. Français, néerlandais. *Dernier délai pour la soumission des candidatures :* —. *Droit d'inscription :* A arranger.

Organisme hôte : Centexbel
24, rue Montoyer
1040 Bruxelles, Belgique

Textiles

Description générale : Matières textiles et laboratoire; filature, moulinage, texturation; tissage; bonneterie; ennoblissement; informatique appliquée au textile. *Début du cours* : A arranger. *Durée* : —. *Qualifications* : Qualifications professionnelles. Français. *Dernier délai pour la soumission des candidatures* : 2 mois avant la date de début du cours. *Droit d'inscription* : —.

Organisme hôte : ITECH Lyon
Département Textile
43, cours Général Giraud
6900 Lyon, France

Hand weaving

General description: Fibres; spinning techniques; dyeing; weaves; patterns; finishes. Product and market development including identification of target buyers, product potential, make-up and packaging. *Commencing date*: To be arranged. *Duration*: 3-6 months. *Qualifications*: At least 1 year of training in weaving and/or craft-based business management. English. *Last date for receipt of applications*: —. *Fee*: £Ir 450 per week (including bed and board).

Host institution: Kilkenny Design
Kilkenny, Ireland

Textile machinery and textiles

General description: Theoretical and practical training in: textiles technologies, mechanics applied to textiles and machine design, electronics applied to textile, statistical analysis and quality control, chemical elements, finishing and dyeing, computer science, EDP and information systems, marketing applied to textile, textile plants, conditioning systems. *Commencing date*: November. (For foreign students an intensive course of Italian will be held from September to the end of October.) *Duration*: 6 months. *Qualifications*: Degree in engineering or industrial chemistry or equivalent. Italian. *Last date for receipt of applications*: 30 June (for foreign students); 30 August (for Italian students). *Fee*: To be arranged.

Host institution: CERIT S.p.A. (Regional Centre for Technical Innovation)
Via Villanova di Sotto
33170 Pordenone, Italy

International garment CAD/CAM pattern design

General description: The garment-computer-aided-design (CAD)/computer-aided-manufacturing (CAM)-pattern-design course is intended for pattern-engineers and members of the technical staff active in product development. Theoretical and practical training covers: pattern engineering and preparation; conversion of manual grading techniques into computerized grading; grading techniques and their organization; computerized cutplanning; marker-making and the use of raw materials with the help of a computerized system; options and registrations of computerized cutting; general knowledge of computer grading and marker systems. *Commencing date*: March, September; also to be arranged. *Duration*: 3 weeks. *Qualifications*: Knowledge of pattern engineering and/or grading; computer experience not required. English. *Last date for receipt of applications*: 2 months before commencing date. *Fee*: f. 4,500.

Host institution: TNO Fibre Research Institute
Clothing Department
P.O. Box 671
7500 AR Enschede, Netherlands

International garment technology

General description: Theoretical and practical training for work and department managers in factories producing clothing covering: quality; assembling techniques; machinery; organization; pattern engineering techniques. *Commencing date:* April, September 1989; also to be arranged. *Duration:* 3 weeks. Courses arranged according to needs. *Qualifications:* Knowledge of clothing industry and/or some years of working experience in production. English. *Last date for receipt of applications:* 2 months before commencing date. *Fee:* f. 4,500.

Host institution: TNO Fibre Research Institute
Clothing Department
P.O. Box 671
7500 AR Enschede, Netherlands

International knitting and styling

General description: Theoretical and practical training in the knitting styling workshop with up-to-date equipment consisting of microprocessor controlled flat and circular knitting machines. *Commencing date:* To be arranged. *Duration:* 13 weeks. *Qualifications:* Production managers and technical staff graduated from a textile engineering college; at least 2 years of experience. English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: TNO Fibre Research Institute
P.O. Box 110
2600 AC Delft, Netherlands

Textile industry

General description: Spinning and weaving, including preparation of yarn, piece dyeing, finishing, printing and testing. *Commencing date:* Throughout the year. *Duration:* 4-12 weeks. *Qualifications:* Degree from a technical school. German, English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: Ten Cate Consultants BV
P.O. Box 58
7600 GD Almelo, Netherlands

Textile mill management

General description: In-plant training, case-study related to industrial organization and management; costing maintenance; production control; quality control; statistics; trouble-shooting; operative selection and training. Textile manufacturing processes, cotton and synthetics; spinning, weaving, knitting, dyeing, finishing and printing. *Commencing date:* August 1989. *Duration:* 4-5 months. *Qualifications:* Production managers and technical staff; at least secondary education; 2 years of experience in textile industry. English. *Last date for receipt of applications:* 3 months before commencing date. *Fee:* To be arranged.

Host institution: International Institute for Technology and Management (IITM)
P.O. Box 1075
7500 BB Enshede, Netherlands

Textiles

General description: Sizing of spun yarns; card clothing; preparation and weaving of cotton and blended yarns; wet-processing of textiles; garment technology; testing methods and testing of fibres, yarns, fabrics, non-woven carpets and quality

assurance. *Commencing date:* To be arranged. *Duration:* 4 days-3 months. *Qualifications:* Professional qualifications. English or German. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: TNO Fibre Research Institute
P.O. Box 110
2600 AC Delft, Netherlands

Textile technology and management course

General description: Theory and practice of industrial organization and management: costing, maintenance, production control, quality control, statistics, troubleshooting, operative selection and training; theory and practice of textile manufacturing processes: spinning of cotton and synthetics, weaving, knitting, dyeing, finishing, and printing. In-plant training, case-studies. *Commencing date:* January, September. *Duration:* 4 months. *Qualifications:* Production managers and technical staff; secondary-level education and at least two years of work experience in textile industry. Good knowledge of English. *Last date for receipt of applications:* 4 months before commencing date. *Fee:* To be arranged.

Organizer: Ten Cate Consultants BV
P.O. Box 58
7600 GD Almelo, Netherlands
in collaboration with
International Institute for Technology and Management (IITM)
P.O. Box 1075
7500 BB Enschede, Netherlands

Textile technology

General description: Introductory, intermediate and advanced courses on cotton and man-made fibres, yarns and fabrics; textile processes and machinery for yarn and fabric (woven, knitted, non-woven) production; dyeing, printing; finishing; testing; working hazards; energy conservation; quality control; technical management. *Commencing date:* Throughout the year. *Duration:* —. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: Shirley Institute
Didsbury
Manchester M20 8RX, United Kingdom

Textile technology

General description: Fundamentals of textile science and textile technology; properties of natural and synthetic fibres; testing and quality control; yarn manufacture; knitting; weaving; non-wovens; printing; dyeing and finishing. *Commencing date:* October 1989. *Duration:* 6 months. *Qualifications:* Degree or equivalent. English. *Last date for receipt of applications:* 1 September 1989. *Fee:* To be arranged.

Host institution: University of Leeds
Department of Textile Industries
Leeds LS2 9JT, United Kingdom

Wood processing and wood products industries/ Industrie du bois et des produits du bois/ Industrias de elaboración de la madera y de productos de madera

Menuiserie et ebenisterie

Description générale : Sécurité sur machines à bois; entretien et affûtage des outils de coupe; utilisation des machines; travaux de corroyage, sciage, exécution, mortaises

et enfourchements; assemblages avec battées, rainures et moulures; menuiserie du bâtiment; ébénisterie, marquetage. *Début du cours* : Toute l'année sauf en juillet et août. *Durée* : —. *Qualifications* : Qualifications professionnelles. Français. *Dernier délai pour la soumission des candidatures* : —. *Droit d'inscription* : A arranger.

Organisme hôte : Centre de coopération et de recherche pédagogique et technique (CREPT)
Université du travail Paul Pastur
1, boulevard Roullier
6000 Charleroi, Belgique

Technologie du bois

Description générale : Panneaux de particules; utilisation des copeaux; techniques de fabrication des panneaux de particules; équipements employés; contrôle de qualité des panneaux. *Début du cours* : Toute l'année sauf juillet à septembre. *Durée* : 2 mois. *Qualifications* : Qualifications professionnelles. Français. *Dernier délai pour la soumission des candidatures* : —. *Droit d'inscription* : FB 15 000 par mois.

Organisme hôte : Station de technologie forestière
1, avenue du Maréchal-Juin 5800 Gembloux, Belgique

Certificate in timber studies

General description: The course comprises modules from the Diploma in Timber Studies course. Courses (a) and (b) below may be combined to form a comprehensive and extensive programme of 26 weeks duration fee: approximately £3,000. (a) Wood science and wood engineering: wood anatomy, identification, properties, end uses, wood chemistry, wood physics, wood engineering, wood based panels, environmental forestry, communication, people and organizations; or (b) Wood processing: sawmilling, saw technology drying, preservation, furniture production, wood machining, management processes, planning and control. *Commencing date*: September 1989, 1990 (wood science and wood engineering); January 1989, 1990 (wood processing). *Duration*: 11 weeks (wood science and wood engineering); 11 weeks (wood processing). *Qualifications*: English. *Last date for receipt of applications*: 3 weeks before commencing date. *Fee*: £170 per week.

Host institution: The Buckinghamshire College
High Wycombe
Buckinghamshire HP11 2JZ, United Kingdom

Diploma in timber studies

General description: Modular course comprising about 75 per cent wood technology and 25 per cent management. It is designed for both graduate and experienced non-graduate participants, particularly from overseas countries. The course covers: wood anatomy; sawmilling; saw technology; drying; preservation; wood based panels; wood engineering/construction; furniture production; wood machining and utilization; management processes; planning and control; communications; people and organizations. *Commencing date*: September 1989, 1990. *Duration*: 10 months. *Qualifications*: English. *Last date for receipt of applications*: 3 weeks before commencing date. *Fee*: £4,250.

Host institution: The Buckinghamshire College
High Wycombe
Buckinghamshire HP11 2JZ, United Kingdom

Saw technology and maintenance

General description: A modular course covering all aspects of saw blade maintenance and related technologies. About 70 per cent of the course is practical training.
Commencing date: January, April, September 1989, 1990. *Duration:* 6-10 weeks.
Qualifications: English. *Last date for receipt of applications:* 3 weeks before commencing date. *Fee:* £170 per week.

Host institution: The Buckinghamshire College
High Wycombe
Buckinghamshire HP11 2JZ, United Kingdom

Other industrial branches and intersectoral programmes/ Autres secteurs industriels et programmes intersectoriels/ Otras ramas industriales y programas intersectoriales

Imprimerie

Description générale : Techniques graphiques; matériel de composition; le papier; les encres; la phototitreuse; la photocomposition; les impositions en montage offset et photocomposition; les procédés d'impression : offset, héliog, sérigraphie; les matériaux photosensibles et développements; les clichés; machines et accessoires; techniques de la couleur; le dessin et la lettre; esthétique, équilibre, créations; montage sur cello; travail sur ruban perforé en photocomposition; traitement ruban avec duplex. *Début du cours :* Toute l'année sauf en juillet et août. *Durée :* —.
Qualifications : Qualifications professionnelles. Français. *Dernier délai pour la soumission des candidatures :* —. *Droit d'inscription :* A arranger.

Organisme hôte : Centre de coopération et de recherche pédagogique et technique (CREPT)
Université du travail Paul Pastur
1, boulevard Roullier
6000 Charleroi, Belgique

Matériaux composites

Description générale : Fabrication; évaluation des propriétés; applications. Le choix d'un ou de plusieurs matériaux provenant d'un pays en voie de développement déterminé est effectué sur place. Les matériaux choisis sont susceptibles d'être utilisés pour la fabrication de composites et présentent un intérêt économique pour le pays d'origine. *Début du cours :* A arranger. *Durée :* 5 mois. *Qualifications :* Qualifications professionnelles; expérience de la construction. Français ou anglais. *Dernier délai pour la soumission des candidatures :* —. *Droit d'inscription :* \$US 5 000.

Organisme hôte : C.R.I.F.
200, rue du Chéra
4000 Liège, Belgique

Minéralogie

Description générale : Méthodes de séparation et d'identification des minéraux; techniques d'investigations utilisées dans les études de traitement des minerais; examens minéralogiques; essais minéralogiques et métallurgiques; analyses chimiques. *Début du cours :* 15 septembre. *Durée :* 3-9 mois. *Qualifications :* Ingénieur

des mines et métallurgie. Français, anglais. *Dernier délai pour la soumission des candidatures* : —. *Droit d'inscription* : FB 30 000 par mois.

Organisme hôte : Laboratoire de traitement des minerais
Université catholique de Louvain
Bâtiment Réaumur
2, place Ste Barbe
1348 Louvain-la-Neuve, Belgique

Technologies nouvelles

Description générale : Les technologies nouvelles comportant les technologies de mise en forme des matières plastiques, du moulage des alliages non ferreux, du travail du verre, de la fabrication des outillages; conception et dimensionnement de pièces en matériaux nouveaux; contrôle de la qualité; traitement des données technologiques par l'informatique. *Début du cours* : A arranger. *Durée* : 5 mois. *Qualifications* : Qualifications professionnelles. Français, anglais. *Dernier délai pour la soumission des candidatures* : —. *Droit d'inscription* : \$US 5 000.

Organisme hôte : C.R.I.F.
200, rue du Chéra
4000 Liège, Belgique

Exploration, extraction and upgrading of local industrial minerals in developing countries

General description: Technical workshop to evaluate the importance of non-metallic minerals and rocks; research in non-metallic mineral sector; exploration of indigenous minerals and rocks; upgrading technologies; refining to process advanced materials; exploitation of industrial minerals in industries; agriculture and environmental engineering; materials for energy conservation and energy management in the processing of industrial minerals. *Commencing date*: October 1990. *Duration*: 3 weeks. *Qualifications*: University degree; experience. English. *Last date for receipt of applications*: 30 June 1990. *Fee*: —.

Host institution: UNIDO/Czechoslovakia Joint Programme
Non-metallic Industries
Pražská 12
305 11 Pilsen, Czechoslovakia

Pratique de l'instrumentation et de la régulation

Description générale : Fonctionnement des instruments de contrôle industriel; principes de base de la régulation; travaux pratiques. A l'issue de ce stage les participants pourront régler des instruments de mesure et mettre au point des boucles de régulation. *Début du cours* : 6 sessions par an. *Durée* : 6 semaines. *Qualifications* : Français. *Dernier délai pour la soumission des candidatures* : —. *Droit d'inscription* : FF 18 900.

Organisme hôte : Institut de régulation et automation
Chemin des Moines
13644 Arles, France

Stages individualisés pour cadres

Description générale : Permettre à des cadres ayant une expérience professionnelle d'acquérir une formation complémentaire adaptée à l'exercice de nouvelles fonctions. *Début du cours* : A arranger. *Durée* : Maximum 900 heures. *Qualifications* : Ingénieurs recherchant une qualification technique différente; cadres

recherchant un nouvel emploi dans un secteur en développement. *Dernier délai pour la soumission des candidatures* : A arranger. *Droit d'inscription* : A arranger.

Organisme hôte : Institut national des sciences appliquées de Lyon
Formation continue
Bâtiment 601
20, avenue Albert-Einstein
69621 Villeurbanne, Cedex, France

Farm machinery

General description: Operation, maintenance and repair of farm machinery for crop production: tools, component parts, lubrication; transmission of power; tillage implements; seeding and planting equipment; crop protection equipment; workshop organization; parts management; training of personnel. **Commencing date:** To be arranged. **Duration:** 13 weeks. **Qualifications:** Diploma or Bachelor of Science; several years of experience. English, French, Spanish, Portuguese. **Last date for receipt of applications:** 28 February. **Fee:** DM 8,984 (including study materials, protective clothing, study tour).

Host institution: Deutsche Lehranstalten für Agrartechnik (DEULA)
P.O.B. 120134
6100 Darmstadt, Federal Republic of Germany

Offset printing

General description: Training courses specially designed for developing countries. **Commencing date:** August. **Duration:** 11 months. **Qualifications:** Basic knowledge of printing. English. **Last date for receipt of applications:** —. **Fee:** To be arranged.

Host institution: Printpromotion GmbH
Postfach 710864
6000 Frankfurt-71, Federal Republic of Germany

Reproduction

General description: Training courses specially organized for developing countries. **Commencing date:** August. **Duration:** 11 months. **Qualifications:** Basic knowledge of photography. English. **Last date for receipt of applications:** —. **Fee:** To be arranged.

Host institution: Printpromotion GmbH
Postfach 710864
6000 Frankfurt-71, Federal Republic of Germany

Plant layout and materials handling

General description: The objective of the course is to enable participants to improve the utilization of facilities and factory space through better layout and materials handling. **Commencing date:** To be arranged. **Duration:** 3 weeks. **Qualifications:** Technical consultants of national productivity organizations or similar institutes; industrial engineers in medium or large industries, of APO member countries. English. **Last date for receipt of applications:** 3 months before commencing date. **Fee:** \$US 100 per participant from profit-making organizations.

Organizer: Asian Productivity Organization (APO)
4-14, Akasaka 8-chome, Minato-ku
Tokyo, 107 Japan

Venue: Japan

Graphic design

General description: Basic subjects of graphic design: typography; composition; chromatics; illustration; photography; silkscreen printing; extension oriented design; workshop on shopfloor management; desk-top publishing. *Commencing date:* 21 August 1989. *Duration:* 18 weeks. *Qualifications:* Vocational training or equivalent; 2 years of experience. English. *Last date for receipt of applications:* 15 May 1989. *Fee:* f. 18,100.

Host institution: Graphic Media Development Centre (GMDC)
P.O. Box 20014
Christoffel Plantijnstraat 1
2500 EA The Hague, Netherlands

Print production

General description: Text production; desk-top publishing; montage; photography and offset plate making; offset printing and print finishing; graphic design and layout; workshop on shop-floor management; silkscreen printing. *Commencing date:* 21 August 1989. *Duration:* 18 weeks. *Qualifications:* Secondary education; 2 years of experience in the printing industry. English. *Last date for receipt of applications:* 15 May 1989. *Fee:* f. 17,725.

Host institution: Graphic Media Development Centre (GMDC)
P.O. Box 20014
Christoffel Plantijnstraat 1
2500 EA The Hague, Netherlands

Laboratory technician

General description: Basic science; laboratory techniques; analytical chemistry; use of computers; safety; report writing. *Commencing date:* 20 September 1989. *Duration:* 1 year. *Qualifications:* English. *Last date for receipt of applications:* 12 September 1989. *Fee:* £1,260.

Host institution: Nene College
Moulton Park
Northampton NN2 7AL, United Kingdom

Oil fabrication industry

General description: A modular training course for technical clerks. General NDT; health and safety at work; bookkeeping; procurement; project reporting; transport and communications studies; quality assurance/quality control; documentation; certification United Kingdom and Norway; computer studies. *Commencing date:* Usually March. *Duration:* 9 months. *Qualifications:* GCE "O" level (or its equivalent) in mathematics, physics or general science. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* £200 per week.

Host institution: Inspectorate
P.O. Box 45
Portrack Lane
Stockton-on-Tees, Cleveland TS18 2PP, United Kingdom

Petroleum engineering

General description: A series of 5-day modules covering drilling engineering, production technology, reservoir engineering and petroleum economics. The courses are aimed at engineers and geologists involved in the exploration and production of oil and

natural gas. *Commencing date:* July 1989. *Duration:* 4-6 weeks. *Qualifications:* English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* To be arranged.

Host institution: Heriot-Watt University
Continuing Education
Riccarton
Edinburgh EH14 4AS, United Kingdom

Practical water supply and sanitation for low-income communities in developing countries

General description: Blockwork and cement; mechanical and electrical plant; excavation and pipework. *Commencing date:* 2 July 1989. *Duration:* 6 weeks. *Qualifications:* Holding a suitable professional appointment in a developing country. English. *Last date for receipt of applications:* 31 May 1989, 1990. *Fee (provisional):* £2,000 (including residence and all meals).

Host institution: Water, Engineering and Development Centre (WEDC)
Loughborough University of Technology
Loughborough LE11 3TU, United Kingdom

Science laboratory instrumentation

General description: Instrument electronics; digital electronics; computing; instrumentation; fault location; maintenance; specialization. *Commencing date:* January or by arrangement. *Duration:* 6 months. *Qualifications:* 5 years of experience. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: Water, Engineering and Development Centre (WEDC)
Loughborough University of Technology
Loughborough LE11 3TU, United Kingdom

Scientific instrumentation

General description: Instrumental measurement; instrumental electronics; signals and signal processing; computers and programming; data analysis; analytical systems; sensors; scientific data processing; computers in scientific instrumentation; instrumental errors and optimization. *Commencing date:* September. *Duration:* 12 months. *Qualifications:* Degree or equivalent. English. *Last date for receipt of applications:* July. *Fee:* To be arranged.

Host institution: Bristol Polytechnic
Cold Harbour Lane, Frenchay
Bristol BS16 1QY, United Kingdom

Technology for rural development

General description: Postgraduate diploma course covering: agriculture and water; building design for social infrastructure; building materials; improved low-cost housing; integrated rural development; power and industry; roads and bridges; water supply and sanitation. *Commencing date:* 2 January 1990. *Duration:* —. *Qualifications:* Degree or equivalent; appropriate professional experience. English. *Last date for receipt of applications:* 30 November 1989. *Fee (provisional):* £3,800 (including residence and all meals).

Host institution: Water, Engineering and Development Centre (WEDC)
Loughborough University of Technology
Loughborough LE11 3TU, United Kingdom

2. INDUSTRIAL FUNCTIONS/FONCTIONS INDUSTRIELLES/ FUNCIONES INDUSTRIALES

Automation and data processing/Automatisation et traitement des données/ Automatización y procesamiento de datos

Computer process control system

General description: Introduction; electronic and pneumatic components; transmitters; operation amplifiers; transistor transducers; digital data conversion units; arrangement of process control units; computer process control manual; safety equipment; alarm system. *Commencing date:* Throughout the year except in July and August. *Duration:* 4-6 weeks. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* To be arranged. *Fee:* S 24,000 per week.

Host institution: Chemserv Consulting GmbH
St. Peterstrasse 25
4021 Linz, Austria

Work order processing

General description: Survey of the computer system; issue of work orders; processing a single order; processing a main order, including partial orders and suborders; processing a service order; processing a general long-term order; processing an investment order; decision on placing orders; filing; registration of working time. *Commencing date:* Throughout the year except in July and August. *Duration:* 4 weeks. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* To be arranged. *Fee:* S 24,000 per week.

Host institution: Chemserv Consulting GmbH
St. Peterstrasse 25
4021 Linz, Austria

Electronique — informatique

Description générale : Mise en œuvre de capteur; utilisation des amplificateurs opérationnels; multiplexage et commutations analogiques; commande des machines; isolation galvanique des circuits de commande; automates programmables; concept de robotique; anatomie d'un robot; langages de programmation; microprocesseurs mémoires, entrées/sorties; acquisition des données analogiques et numériques; mise en œuvre d'un clavier, d'un système afficheur, d'un moniteur vidéo, d'une imprimante, d'interfaces cassette, disquette, d'une table traçante, d'interfaces de puissance; interconnexion d'ordinateurs; programmes tests; dépannage. *Début du cours :* Toute l'année sauf en juillet et août. *Durée :* —. *Qualifications :* Niveau de qualification professionnelle. Français. *Dernier délai pour la soumission des candidatures :* —. *Droit d'inscription :* A arranger.

Organisme hôte : Centre de coopération et de recherche pédagogique et technique (CREPT)
Université du travail Paul Pastur
1, boulevard Roullier
6000 Charleroi, Belgique

Computer aided design (CAD) and computer aided manufacturing (CAM)

General description: Practical approach and applications on personal computers; case-studies for CAD/CAM (CAD, CAPP, CAM); maintenance and repair of industrial enterprises; practical training in a personal computer equipped laboratory; industrial visits. *Commencing date:* September 1989. *Duration:* 3 weeks. *Qualifications:* Managers and/or engineers; university degree, preferably in mechanical engineering or electronics; at least 3 years of experience in design and manufacturing, maintenance and repair. English. *Last date for receipt of applications:* 31 May 1989. *Fee:* Governments/IPF projects are expected to provide travel of participants.

Host institution: UNIDO
Czechoslovakia Joint Programme for Co-operation
Metallic Industries
Inorga Institute
Letenská 17
118 06 Prague 1, Czechoslovakia

Industrial applications of computer aided systems in basic industries

General description: Computer hardware and software; industrial applications in management; production control, maintenance and repair; computer aided design and computer aided manufacturing; demonstrations, practical training, industrial visits. *Commencing date:* March 1990. *Duration:* 2-3 weeks. *Qualifications:* Managers/engineers; university degree, preferably in economics or management or electronics; at least 3 years of experience. English. *Last date for receipt of applications:* 31 January 1990. *Fee:* Governments/IPF projects are expected to provide travel of participants.

Host institution: UNIDO
Czechoslovakia Joint Programme for Co-operation
Metallic Industries
Inorga Institute
Letenská 17
118 06 Prague 1, Czechoslovakia

Action en automatisation de la production

Description générale : Permettre aux ingénieurs et techniciens chargés de la mise en œuvre de l'automatisation dans l'entreprise de se former à partir de la résolution d'un problème posé par l'entreprise. *Début du cours :* A arranger. *Durée :* 120 à 250 heures sur 4 à 12 mois. *Qualifications :* Les salariés de l'entreprise chargés du problème d'automatisation. *Dernier délai pour la soumission des candidatures :* —. *Droit d'inscription :* A arranger.

Organi:me hôte : Institut national des sciences appliquées de Lyon (INS.)
Formation continue
Bâtiment 601
20, avenue Albert Einstein
69621 Villeurbanne, Cedex, France

Formation à la conception et à la fabrication assistée par ordinateur

Description générale : Apporter une bonne connaissance des problèmes de production, la maîtrise de l'outil informatique pour permettre d'être opérationnel en matière de dessin assisté (DAO) de méthodes et de programmation de machines à commande numérique. *Début du cours :* octobre 1989. *Durée :* 600 heures. *Qualifications :* Techniciens supérieurs ou ingénieur mécanique ou électromécanique ayant au

moins 3 ans d'expérience professionnelle en production. *Dernier délai pour la soumission des candidatures* : 2 mois avant le début du stage. *Droit d'inscription* : FF 30 100.

Organisme hôte : Institut national des sciences appliquées de Lyon (INSA)
Formation continue
Bâtiment 601
20, avenue Albert-Einstein
69621 Villeurbanne, Cedex, France

Formation en automatique avancée et robotique

Description générale : Donner à des techniciens ayant une bonne connaissance des problèmes de la production les outils indispensables à la mise en œuvre des techniques de l'automatique jusques et y compris les robots industriels. *Début du cours* : octobre 1989. *Durée* : 900 heures. *Qualifications* : Techniciens supérieurs en mécanique ou électrotechnique ou niveau équivalent. *Dernier délai pour la soumission des candidatures* : —. *Droit d'inscription* : FF 54 000.

Organisme hôte : Institut national des sciences appliquées de Lyon (INSA)
Formation continue
Bâtiment 601
20, avenue Albert-Einstein
69621 Villeurbanne, Cedex, France

Spécialistes en automatisation des processus industriels

Description générale : Electronique; informatique; éléments de procédés; mesure industrielle; actionneurs; régulation; automatismes; informatique industrielle; gestion de production; qualité industrielle; gestion; projet industriel. *Début du cours* : Fin septembre. *Durée* : 9 mois. *Qualifications* : Ingénieurs ou diplômés de l'université : 2e ou 3e cycles; dossier et entretien. Français. *Dernier délai pour la soumission des candidatures* : 10 septembre. *Droit d'inscription* : FF 40 000.

Organisme hôte : Institut supérieur d'automatique et d'informatique industrielles (ISAI)
Chemin du Temple
ZI Nord
13645 Arles, France

Engineering drafting and computer aided design (CAD) practice

General description: Drafting practice and procedures; engineering drafting and design; CAD and drafting. *Commencing date*: 1 October 1989. *Duration*: 9 months. *Qualifications*: Hong Kong Polytechnic Higher Certificate in production and industrial engineering or equivalent. English, Cantonese. *Last date for receipt of applications*: 1 May 1989. *Fee*: Approximately \$HK 1,450.

Host institution: Industrial Centre
Hong Kong Polytechnic
Hung Hom
Kowloon, Hong Kong

Industrial automation

General description: Automation elements and systems; computer aided automation; applications of industrial automation. *Commencing date*: 1 October 1989. *Duration*: 9 months. *Qualifications*: Hong Kong Polytechnic Higher Certificate in production

and industrial engineering, mechanical engineering, electronic engineering or electrical engineering; engaged in a relevant field. English, Cantonese. *Last date for receipt of applications:* 1 May 1985. *Fee:* \$HK 1,450.

Host institution: Industrial Centre
Hong Kong Polytechnic
Hung Hom
Kowloon, Hong Kong

Computer applications in manufacture

General description: Full-day classes consisting of lectures, discussions, exercises and visits related to the feasibility and application of computers in the various activities of manufacturing industries, such as production planning and control, inventory control. *Commencing date:* To be arranged. *Duration:* 3 weeks. *Qualifications:* Senior engineers from industry and technical consultants of national productivity organizations or similar institutes of APO-member countries. English. *Last date for receipt of applications:* 3 months before commencing date. *Fee:* \$US 100 for participants from profit-making organizations.

Organizer: Asian Productivity Organization (APO)
4-14 Akasaka 8-chome
Minato-ku
Tokyo 107, Japan

Venue: Japan

Office automation

General description: Office automation equipment and applications; office automation and office environment; office automation and new technologies; planning and implementing office automation; exercises on personal computers and word processors. *Commencing date:* To be arranged. *Duration:* 3 weeks. *Qualifications:* Consultants of national productivity organizations or similar institutes and senior office managers of APO-member countries. English. *Last date for receipt of applications:* 3 months before commencing date. *Fee:* \$US 100 for participants from profit-making organizations.

Organizer: Asian Productivity Organization (APO)
4-14 Akasaka 8-chome
Minato-ku
Tokyo 107, Japan

Venue: Japan

Computer use in business operations

General description: Essentials of computer programming, systems analysis and specific software designed to solve major problems in accounting, finance, planning, marketing, production and quality control. *Commencing date:* 1 May, 30 October 1989, 30 April, 29 October 1990. *Duration:* 2 months. *Qualifications:* Bachelor's degree or equivalent; experience in a relevant field. English. *Last date for receipt of applications:* 3 months before commencing date. *Fee:* f. 10,000.

Host institution: International Centre for Quality and Management Sciences
P.O. Box 2082
3000 CB Rotterdam, Netherlands

Application of microcomputers to engineering problems

General description: Microcomputer operation and practical application of microcomputers in solving engineering problems; operating systems; FORTRAN programming language; computer graphics including AUTOCAD; structural calculations and designing using finite element method (FEM). *Commencing date:* To be arranged. *Duration:* 1 month. *Qualifications:* Degree in mechanical engineering. English. *Last date for receipt of applications:* 2 months before commencing date. *Fee:* To be arranged.

Host institution: Association of Polish Mechanical Engineers and Technicians (SIMP)
Staff Upgrading Centre
Mickiewicza 9
01-517 Warsaw, Poland

Second generation expert systems: principles of design and implementation

General description: Principles of creating second generation expert systems based on inductive learning: formalization of data and knowledge, knowledge engineering and principles of knowledge-bases design. *Commencing date:* To be arranged. *Duration:* 8 weeks. *Qualifications:* University graduates engaged in the design of expert systems both in knowledge engineering and in software support. English. *Last date for receipt of applications:* 2 months before commencing date. *Fee:* \$US 8,200 (including accommodation and board).

Host institution: All-Union Institute of Scientific and Technical Information
Usiyevicha 20A
Moscow, Union of Soviet Socialist Republics

Applications for computers in railway management, finance operations and engineering

General description: The course, which is designed for managers and not for data processing specialists, gives a general overview of the state of the art in computer applications in a railway context. It includes practical "hands-on" experience of some of the systems in use on British Rail. The applications are on mainframe, minis and micros, stand-alone and networked. *Commencing date:* 13 November 1989, 1990. *Duration:* 4 weeks. *Qualifications:* Basic knowledge of computing. English. *Last date for receipt of applications:* 21 July 1989, 1990. *Fee:* 1989, £2,050; 1990, £2,170.

Host institution: British Rail
Overseas Training Unit
Railway Engineering School
London Road
Derby DE2 8UX, United Kingdom

Computer aided design (CAD)

General description: A detailed course using AUTOCAD for engineering and manufacturing applications. Specialist areas are available, such as NC programming post processing or specialist architectural programmes. Details include creation of specialist symbol libraries and customization of tablet and menus. *Commencing date:* To be arranged. *Duration:* 1-12 weeks. *Qualifications:* English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* £235 per week plus VAT.

Host institution: East Kilbride Training Association Ltd.
3 Law Place
Nerston Industrial Estate
East Kilbride G74 4PP, Scotland, United Kingdom

Computer applications

General description: Application of computer technology to modern business and engineering requirements; review and practical usage of modern business software.

Commencing date: To be arranged. *Duration:* 1-12 weeks. *Qualifications:* English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* £235 per week plus VAT.

Host institution: East Kilbride Training Association L'd.
3 Law Place
Nerston Industrial Estate
East Kilbride G74 4PP, Scotland, United Kingdom

Computer subjects

General description: Introduction, lectures and "hands-on" training in writing programmes for industrial and commercial applications in the popular programming languages. *Commencing date:* To be arranged. *Duration:* 3 months. *Qualifications:* Professional qualifications. Good English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* To be arranged.

Host institution: Chattaway (UK) Training Services
Pool Chambers
26 Dam Street
Lichfield, Staffordshire WS13 6AA, United Kingdom

Management information systems

General description: Manual and mechanical systems; computer technology and management information systems; microcomputers in management information systems; control systems; management information systems in practice; technology and the course project; consolidation and evaluation. *Commencing date:* March. *Duration:* 12 weeks. *Qualifications:* Graduates. English. *Last date for receipt of applications:* 8 weeks before commencing date. *Fee:* Approximately £4,100.

Host institution: Royal Institute of Public Administration
Regent's College, Inner Circle, Regent's Park
London NW1 4NS, United Kingdom

Records management in Government

General description: Introduction to records management; storage and recording of information; record system maintenance; machine based systems using microcomputers; practical field assignments; action planning for return home. *Commencing date:* February, August. *Duration:* 12 weeks. *Qualifications:* Relevant work experience. English. *Last date for receipt of applications:* 8 weeks before commencing date. *Fee:* Approximately £3,100.

Host institution: Royal Institute of Public Administration
Regent's College, Inner Circle, Regent's Park
London NW1 4NS, United Kingdom

Computer applications in management

General description: Participants will learn: beginning and advanced word processing; spreadsheet accounting with LOTUS 1-2-3; data base management with dBase III; communications software; project management software. Throughout the course, participants develop a back-home implementation strategy for integrating microcomputer applications in their work. To ensure the on-going use of this training

upon their return home, participants are taught basic maintenance and troubleshooting. *Commencing date:* 16 January, 31 July 1989. *Duration:* 8 weeks. *Qualifications:* Bachelor's degree or equivalent. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* \$US 5,500.

Host institution: International Institute for Development
Graduate School, USDA
600 Maryland Avenue, S. W., Suite 134
Washington, DC 20024, United States of America

Computer programmer training

General description: A comprehensive overview of data processing principles and technology; fundamental concepts and terms; techniques and methods of electronic data processing; basic representation; data systems analysis and design; flow charting; programming. *Commencing date:* 23 January 1989. *Duration:* 11 weeks. *Qualifications:* Bachelor's degree or equivalent. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* \$US 4,500.

Host institution: International Institute for Development
Graduate School, USDA
600 Maryland Avenue, S. W., Suite 134
Washington, DC 20024, United States of America

Energy/Energie/Energía

Energies renouvelables

Description générale : Disponibilité et mesure des sources des énergies renouvelables : solaire, éolienne, hydraulique; description des équipements, techniques commerciales, performances, champ d'application, cas pratiques; calculs technico-économiques des équipements utilisant les énergies renouvelables en fonction des besoins; réalisation de projets concrets; visite des installations existant en Belgique; possibilité de production de ces équipements dans les PVD, transfert de technologie, joint-venture. *Début du cours :* A arranger. *Durée :* 2 mois. *Qualifications :* Ingénieur industriel. Français ou anglais. *Dernier délai pour la soumission des candidatures :* A arranger. *Droit d'inscription :* A arranger.

Organisme hôte : Science
98, avenue de Tervueren
1040 Bruxelles, Belgique

Utilisation rationnelle de l'énergie

Description générale : Energétique et thermodynamique; appareils de transformation des énergies primaires; transport d'énergie et vecteurs énergétiques; principaux appareils utilisateurs de l'énergie; contrôle et régulation; principaux points faibles des systèmes énergétiques et les équipements existants pour les pallier; principaux équipements de mesure d'un auditeur; principes de la comptabilité énergétique dans une entreprise; schéma théorique d'un audit énergétique; principaux remèdes; calcul des économies et des investissements; programmes informatiques légers pour l'audit, rapport d'audit. Participation à l'audit de 5 entreprises différentes. Visite de 2 ou 3 entreprises modèles. *Début du cours :* A arranger. *Durée :* 2 mois. *Qualifications :* Niveau ingénieur industriel. Français ou anglais. *Dernier délai pour la soumission des candidatures :* A arranger. *Droit d'inscription :* A arranger.

Organisme hôte : INIEX
200, rue du Chéra
4000 Liège, Belgique

Energy management in non-metallic industries

General description: The technical workshop will emphasize the most important aspects of energy management, regarding a proper choice of energy consuming equipment and efficient technologies with regard to locally available raw materials. It will demonstrate application of mobile means in energy auditing. *Commencing date:* October 1989. *Duration:* 3 weeks. *Qualifications:* University degree or equivalent. *Last date for receipt of applications:* 31 May 1989. *Fee:* —.

Host institution: UNIDO
Czechoslovakia Joint Programme
Non-metallic Industries
Prazská 12
305 11 Pilsen, Czechoslovakia

Energy management (fuel efficiency at the plant level)

General description: Lectures, discussions, exercises and visits related to: energy management strategies and programmes; fuel combustion; insulation practice; boiler and furnace design and operation for energy economy; efficient utilization of steam and electric power; waste heat utilization; total energy—cogeneration systems; energy audit; measurement of and instrumentation for energy saving. *Commencing date:* To be arranged. *Duration:* 3 weeks. *Qualifications:* Technical consultants of national productivity organizations or similar institutes and senior plant engineers concerned with the diagnosis of energy utilization problems in APO-member countries. English. *Last date for receipt of applications:* 3 months before commencing date. *Fee:* \$US 100 for participants from profit-making organizations.

Organizer: Asian Productivity Organization (APO)
4-14 Akasaka 8-chome
Minato-ku
Tokyo 107, Japan

Venue: India

Energy management in small- and medium-scale industries

General description: Analysis of the role of energy in production processes; availability and acquisition of energy, and the consequences of the choice of sources; efficient use of energy; the formulation of policy options and strategies. *Commencing date:* October 1989. *Duration:* 5 weeks. *Qualifications:* Bachelor of Science or equivalent. English. *Last date for receipt of applications:* 1 July 1989. *Fee:* f. 10,000.

Organizer: University of Twente
Technology and Development Group
Drienerlolaan 5
P.O. Box 217
7500 AE Enschede, Netherlands

Venue: Enschede, Netherlands
Delft, Netherlands

Rural energy planning

General description: The objective of the course is to enable district and regional officials in rural economy to rationalize rural energy policy as related to the overall rural economy, and to solve energy problems through efficient analysis and planning.

Commencing date: May 1989. *Duration:* 9 weeks. *Qualifications:* Bachelor or Master of Science or equivalent. English. *Last date for receipt of applications:* 1 February 1989. *Fee:* f. 5,500.

Host institution: University of Twente
Technology and Development Group
Drienerlolaan 5
P.O. Box 217
7500 AE Enschede, Netherlands

Environment/Environnement/Medio ambiente

Environmental protection, energy management and optimization

General description: Energy control; single train unit (NH₃); gas compression; urea plant; environmental protection, safety aspects; air pollution; water pollution; waste water control and purification; fire brigade; alarm system; storage of combustible and inflammable material; use of solvents. *Commencing date:* Throughout the year except in July and August. *Duration:* 6 weeks. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* To be arranged. *Fee:* S 24,000 per week.

Host institution: Chemserv Consulting GmbH
St. Peterstrasse 25
4021 Linz, Austria

Dépollution des effluents de l'industrie textile

Description générale : La pollution engendrée par l'industrie textile; les sous-produits; la récupération de la chaleur. *Début du cours :* 1er mars; 1er avril. *Durée :* 2 mois. *Qualifications :* Ingénieur chimiste ou textile; licencié en chimie; ingénieur civil. Français. *Dernier délai pour la soumission des candidatures :* 2 mois avant la date de début du séminaire. *Droit d'inscription :* BF 100 000 par mois.

Organisme hôte : Laboratoire CELAC
Zoning de Petit Rechain
69 A, avenue du Parc
4655 Chaineux, Belgique

Environmental control in the chemical and pharmaceutical industries

General description: Study of the natural and human environment; analysis of the principal sources of air, water and soil pollution; effects of pollutants on human health; methods of prevention and control. *Commencing date:* Beginning of August. *Duration:* 6 weeks. *Qualifications:* Civil engineers, pharmacists, biologists, chemical engineers. Course held in alternate years in English and French. *Last date for receipt of applications:* —. *Fee:* Approximately BF 40,000.

Host institution: State University of Ghent
Department of Toxicology
Hospitaalstraat 13
9000 Ghent, Belgium

Water arrangement and amelioration

General description: Protection of soil; increase of its productivity; turning soil into productive land by water management; recultivation of soil; planning and implementation of amelioration work; farming on ameliorated areas; maintenance

and operation of amelioration devices; analysis of the economic efficiency of amelioration. *Commencing date:* To be arranged. *Duration:* 2 months. *Qualifications:* Medium or high level qualifications. English, Arabic or to be arranged. *Last date for receipt of applications:* To be arranged. *Fee:* To be arranged.

Host institution: International Training Centre, Vép
in collaboration with
Organization for International Technical and Scientific Co-operation
(TESCO)
Rosenberg hsp. utca 21
1051 Budapest, Hungary

Water supply and sewerage

General description: Water supply and sewerage in water management; hydrology and hydraulics; control of water quality; access to underground waters; the technologies of well boring; water purification; arrangement of power rooms in waterworks, their operation; operation of water distributing networks; automation of waterworks; disinfection and its methods; industrial water supply; pumps and compressors, their operation and maintenance. *Commencing date:* To be arranged. *Duration:* 6 months. *Qualifications:* Medium-level qualifications. English, Arabic or to be arranged. *Last date for receipt of applications:* To be arranged. *Fee:* To be arranged.

Host institution: International Training Centre, Vép
in collaboration with
Organization for International Technical and Scientific Co-operation
(TESCO)
Rosenberg hsp. utca 21
1051 Budapest, Hungary

Industrial pollution control

General description: Full-day classes consisting of lectures, discussions, exercises and visits related to: environmental pollution in Japan; policy and regulations concerning environmental protection in Japan; overview of water and air pollution; waste water treatment techniques; water pollution control techniques for small industry; sewage disposal systems; grey (domestic wastes) water treatment; water quality measurement. *Commencing date:* To be arranged. *Duration:* 4 weeks. *Qualifications:* Technical consultants of national productivity organizations or similar institutes, engineers at the government level and senior plant and production engineers concerned with industrial pollution control in APO-member countries. English. *Last date for receipt of applications:* 3 months before commencing date. *Fee:* \$US 100 for participants from profit-making organizations.

Organizer: Asian Productivity Organization (APO)
4-14 Akasaka 8-chome
Minato-ku
Tokyo 107, Japan

Venue: Japan

Ingeniería ambiental

Descripción general: Contaminación atmosférica; contaminación de las aguas; contaminación por residuos; contaminación por ruidos; gestión ambiental. *Fecha de iniciación:* Enero 1989, 1990. *Duración:* 5 meses. *Calificaciones:* Título universitario

de ingeniero o licenciado en ciencias. Español. *Fecha límite para la recepción de las solicitudes:* 9 de enero 1989, 1990. *Derechos de inscripción:* 1989, Ptas 218.000; 1990, Ptas 237.000.

Institución huésped: Escuela de Organización Industrial
Gregorio del Amo 4
28040 Madrid, España

Water analysis and quality

General description: Bacteriological analysis; chemical and physical analysis; field and on-site testing; ground water and surface water pollution; laboratory management and design; waste-water analysis; water pollution control and legislation; water quality and health; water treatment and distribution. *Commencing date:* 16 April 1989, 22 April 1990. *Duration:* —. *Qualifications:* Appropriate degree or equivalent. English. *Last date for receipt of applications:* 28 February 1989, 1990. *Fee (provisional):* £4,500 (including residence, all meals and transport for field work).

Host institution: Water, Engineering and Development Centre (WEDC)
Loughborough University of Technology
Loughborough LE11 3TU, United Kingdom

Water treatment

General description: Training and industrial experience in water treatment technology for processing; chemical fertilizer industries. *Commencing date:* To be arranged. *Duration:* 3 months. *Qualifications:* Proficiency in a relevant discipline. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* To be arranged.

Host institution: Chattaway (UK) Training Services
Pool Services
26 Dam Street
Lichfield, Staffordshire WS13 6AA, United Kingdom

Industrial design/Design industriel/Diseño industrial

Craft product design

General description: Product design appropriate to low technology or unskilled workers; adaptation of traditional processes to modern market requirements and taste; problem solving and design; design management and costing. *Commencing date:* To be arranged. *Duration:* 3-6 months. *Qualifications:* Qualifications in design. English. *Last date for receipt of applications:* —. *Fee:* £1r 450 per week (including bed and board).

Host institution: Kilkenny Design
Kilkenny, Ireland

Design for industry

General description: Residential courses in craft product design appropriate to low-technology or unskilled workers (including ceramics, timber products); hand-weaving for those wishing to establish a small business or craft industry; jewellery and silversmithing for upgrading the skills and experience of metal-workers; industrial product design for the high-technology industry; design management and costing. *Commencing date:* To be arranged. *Duration:* —.

Qualifications: Professional qualifications. English. *Last date for receipt of applications:* —. *Fee:* £1r 450 per week (including bed and board).

Host institution: Kilkenny Design
Kilkenny, Ireland

Industrial product design

General description: Requirements and techniques of design for the high-technology industries; concepts and presentation; model-making; ergonomics; keyboards and controls; sourcing and costing components; design development, working drawings, prototype making; design management and costing. *Commencing date:* To be arranged. *Duration:* 3-6 months. *Qualifications:* Qualifications in design. English. *Last date for receipt of applications:* —. *Fee:* £1r 450 per week (including bed and board).

Host institution: Kilkenny Design
Kilkenny, Ireland

Jewellery and silversmithing

General description: Design, drawing, familiarity with metals and stones; raising holloware from flat sheet; workshop practice and costing; visits to a mass-producing manufacturing jeweller and to the Irish Assay Office. *Commencing date:* To be arranged. *Duration:* 3-6 months. *Qualifications:* Metalwork training or apprenticeship; at least 2 years of experience. English. *Last date for receipt of applications:* —. *Fee:* £1r 450 per week (including bed and board).

Host institution: Kilkenny Design
Kilkenny, Ireland

Design

General description: Core courses: artistic and expressive tendencies; the history of domestic living culture; industrial technologies; socio-economic forecasting. Design studio courses: product design; domestic ritual; domestic work; interior design of the automobile. *Commencing date:* January 1990. *Duration:* 10 months. *Qualifications:* English, Italian. *Last date for receipt of applications:* October 1989. *Fee:* Lit 17,700,000 (including taxes).

Host institution: Domus Academy
Edificio I/C
Milanofiori
20090 Assago, Milan, Italy

Fashion design

General description: Socio-economic forecasting; design economics; the history of costume; fashion design; textile and accessory design; fashion marketing and communications. *Commencing date:* January 1990. *Duration:* 10 months. *Qualifications:* English, Italian. *Last date for receipt of applications:* October 1989. *Fee:* Lit 17,700,000 (including taxes).

Host institution: Domus Academy
Edificio I/C
Milanofiori
20090 Assago, Milan, Italy

CAD advanced computer aided design

General description: CAD course structured to give good theoretical-practical balance.

Commencing date: To be arranged. *Duration:* 6 months. *Qualifications:* Architects, engineers. Good English. *Last date for receipt of applications:* First week of the month for commencing date during the following month. *Fee:* To be arranged.

Host institution: Chattaway (UK) Training Services
Pool Chambers
26 Dam Street
Lichfield, Staffordshire WS13 6AA, United Kingdom

Design engineering

General description: Design office management in the fields of mechanical, electrical/electronic engineering: design and drafting techniques, manufacturing methods, planning and project control. *Commencing date:* To be arranged. *Duration:* 3 months. *Qualifications:* Good English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* To be arranged.

Host institution: Chattaway (UK) Training Services
Pool Chambers
26 Dam Street
Lichfield, Staffordshire WS13 6AA, United Kingdom

Industrial information and documentation/ Information et documentation industrielles/ Información y documentación industriales

Informatique

Description générale : Initiation au traitement de l'information; collecte et transmission de l'information; organisation des fichiers; systèmes d'exploitation; formation informatique des dirigeants de petites et moyennes entreprises; informatique appliquée aux différentes spécialités techniques rencontrées. *Début du cours :* Toute l'année sauf en juillet et août. *Durée :* —. *Qualifications :* Qualifications professionnelles. Français. *Dernier délai pour la soumission des candidatures :* —. *Droit d'inscription :* A arranger.

Organisme hôte : Centre de coopération et de recherche pédagogique et technique (CREPT)
Université du travail Paul Pastur
1, boulevard Roullier
6000 Charleroi, Belgique

Formation intensive à l'informatique

Description générale : Formation à la conception et au développement d'applications informatiques. Le stage comporte trois parties de poids égal : informatique système, système d'information, informatique industrielle. *Début du cours :* septembre 1989, janvier 1990. *Durée :* 1 240 heures. *Qualifications :* Ingénieurs, maîtrise scientifique, techniciens supérieurs. *Dernier délai pour la soumission des candidatures :* 2 mois avant la date de début du cours. *Droit d'inscription :* FF 29 800.

Organisme hôte : Institut national des sciences appliquées de Lyon (INSA)
Formation continue
Bâtiment 601
20, avenue Albert-Einstein
69621 Villeurbanne, France

Automated document searches in multilingual data bases

General description: Logical and linguistic methodologies of document searches in multilingual data bases on subject queries in the user's language; ways of representing machine glossaries of words and word combinations (monolingual and multilingual) in computer memory; principles of designing a system of automatic indexing of Russian texts representing results of indexing in various foreign languages. *Commencing date:* To be arranged. *Duration:* 4 weeks. *Qualifications:* University degree; engaged in automatic information processing. English. *Last date for receipt of applications:* 2 months before commencing date. *Fee:* \$US 4,000.

Host institution: All-Union Institute of Scientific and Technical Information
Usiyevicha 20A
Moscow, Union of Soviet Socialist Republics

Information technology for business users

General description: The objective of the course intended for managers of "user" departments is to provide participants with a good basic knowledge of the availability and business application of the various disciplines within the computer and associated activities fields. *Commencing date:* 15 January, 9 April, 15 May, 10 September 1989, 14 January 1990. *Duration:* 10 weeks. *Qualifications:* A good level of basic education. English. *Last date for receipt of applications:* 6 weeks before commencing date. *Fee:* £13,905 (residential).

Host institution: Rayfield Consultancy and Training Ltd.
Melrose House
Broadlayings
Woolton Hill
Newbury, Berkshire RG15 9TT, United Kingdom

New technology

General description: A special development programme for key managers and specialist project leaders concerned with the implementation of technological change, particularly information technology and management information systems, within organizations. *Commencing date:* May 1989, 1990. *Duration:* 10 weeks. *Qualifications:* Members of senior management responsible for the development of managerial strategies concerning the use of new technology or management information systems and specialist project managers responsible for implementing new technology. English. *Last date for receipt of applications:* 6 weeks before commencing date. *Fee:* To be arranged.

Host institution: Industrial Training Services Ltd. (ITS)
Overseas Division
43 Market Place
Wetherby, West Yorkshire LS22 4LN, United Kingdom

Industrial planning and programming/ Planification et programmation industrielles/ Planeamiento y programación industrial

Industrial location and development

General description: Comprehensive overview of industrial location and development, including all theoretical and practical aspects. *Commencing date:* October. *Duration:* 2 years (1 year for holders of master's degree upon approval of the faculty).

Qualifications: Bachelor's degree. *Last date for receipt of applications:* —. *Fee:* BF 11,500 per academic year.

Host institution: Plant Location Institute
De Tyraslaan 111
1120 Brussels, Belgium

Planification industrielle

Description générale : Planification; prévisions et réalisations en matière de développement; relation entre la micro et la macro-économie; l'appareil conceptuel de la prévision économique et de la planification; les comptes et statistiques; le calcul de la rentabilité interne des projets; l'analyse critique des postes du bilan; les prix de revient, méthodes de calcul; analyse des coûts. *Début du cours :* Toute l'année sauf juillet et août. *Durée :* —. *Qualifications :* Qualifications professionnelles. Français. *Dernier délai pour la soumission des candidatures :* —. *Droit d'inscription :* FB 15 000-FB 40 000 par mois.

Organisme hôte : Société coopérative MISIFA
67, rue Tenbosch
1050 Bruxelles, Belgique

Transport-oriented location planning

General description: Economic aspects of the location planning for industrial projects; location factors and time limits; transport expenditures as a location factor; criteria of locations with the best transport conditions; methodical basic elements of the location planning with the best transport conditions. *Commencing date:* March-June, September-November. *Duration:* 3 weeks. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: TCIB/TCAC
Hochschule für Verkehrswesen "Friedrich List"
Friedrich-List Platz 1
8010 Dresden, German Democratic Republic

Rural development and co-operative policy

General description: The purpose of the course is to introduce the methods of planning for rural development for agro-industrial as well as domestic industrial co-operatives. *Commencing date:* 1 September 1989. *Duration:* 3 months. *Qualifications:* English, Spanish. *Last date for receipt of applications:* 1 June 1989. *Fee:* \$US 600 per month.

Host institution: University of Agricultural Sciences
Faculty of Agricultural Sciences
Department of Tropical and Subtropical Agriculture
P.O. Box 303
2103 Gödöllő, Hungary

Industrial development

General description: Courses in marketing, finance, technology and organization analysis. Specialist courses in small industry, overseas promotion, joint ventures, project appraisal, industrial training, project management, industrial estates. *Commencing date:* June, September. *Duration:* 6 weeks. *Qualifications:* Professional

qualifications. English. *Last date for receipt of applications:* 31 May, 31 August. *Fee:* £Ir 5,400 (including accommodation).

Host institution: Development Co-operation Division
Industrial Development Authority—Ireland
Wilton Park House
Wilton Place
Dublin 2, Ireland

Industrial planning

General description: Macro-planning and strategy-oriented course: long-term development issues of industrialization, industrial strategies and planning, industrial incentives and promotional policies, technology transfer, employment, financing industrial development, project preparation, project appraisal; field trip and workshop. *Commencing date:* 13 June 1989. *Duration:* 4 weeks. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* To be arranged.

Organizer: International Development Center of Japan
Shuwa Daini
Toranomon Building
21-19, Toranomon, 1-chome, Minato-ku
Tokyo, Japan
Contact address:
Japan International Co-operation Agency (JICA)
Training Affairs Department
Shinjuku-Mitsui Building, 48th floor
1, 2-chome, Nishi Shinjuku, Shinjuku-ku
Tokyo 160, Japan

Venue: Riyadh, Saudi Arabia

Industrial planning and development

General description: Lecture-cum-discussion seminar covering: long-term development and strategy; industrial policy and planning; technology transfer and labour employment; financing of industrial development projects. For the discussion, all participants are required to submit the reports on industrial planning and development in their respective countries before starting the seminar. *Commencing date:* To be arranged. *Duration:* 4 weeks. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Organizer: International Development Center of Japan
Shuwa Daini
Toranomon Building
21-19, Toranomon, 1-chome, Minato-ku
Tokyo, Japan
Contact address:
Japan International Co-operation Agency (JICA)
Training Affairs Department
Shinjuku-Mitsui Building, 48th floor
1, 2-chome, Nishi Shinjuku, Shinjuku-ku
Tokyo 160, Japan

Production planning and control

General description: Production planning and control; material requirements planning system; Just in Time (JIT) Kanban system; current trends in production planning

and control systems in Japanese industry; company visits. *Commencing date:* To be arranged. *Duration:* 3 weeks. *Qualifications:* Production engineers and managers in manufacturing industry and technical consultants of national productivity organizations or similar institutes, of APO member countries. English. *Last date for receipt of applications:* 3 months before commencing date. *Fee:* \$US 100 for participants from profit-making organizations.

Organizer: Asian Productivity Organization (APO)
4-14 Akasaka 8-chome
Minato-ku
Tokyo 107, Japan

Venue: Japan

Economic planning

General description: Comparative development theories and their application; planning and development; system of planning, organization and procedures; information, methods and instruments, application for planning. *Commencing date:* 1 October. *Duration:* 5 months. *Qualifications:* Bachelor's degree. English. *Last date for receipt of applications:* 31 July. *Fee:* —.

Host institution: Research Institute for Developing Countries
Central School of Planning and Statistics in Warsaw
Al. Niepodleglosci 164
02-554 Warsaw, Poland

Planification économique

Description générale : Les théories du développement et leurs applications: la planification et le développement; le système de planification; méthodes et instruments de planification. *Début du cours :* 1er mars. *Durée :* 4 mois. *Qualifications :* Diplôme universitaire. Français. *Dernier délai pour la soumission des candidatures :* 31 décembre. *Droit d'inscription :* —.

Organisme hôte : L'institut d'économie des pays en voie de développement
Ecole centrale de planification et de statistique
Al. Niepodleglosci 164
02-554 Varsovie, Pologne

Industrial development planning: strategic and local policy

General description: The course aims to equip local authorities of the least developed countries and appropriate national ministries and agencies to formulate and implement more effective policies to raise employment levels and to increase national output. The first part will consider options for industrial development, within the international framework. The second part will examine local policy choices. *Commencing date:* 4 January 1990. *Duration:* 12 weeks or 6 weeks for each of the two parts. *Qualifications:* Licence or substantial practical experience. English. *Last date for receipt of applications:* 4 January 1989, 1990. *Fee:* £2,950 (plus £160 for field trips for 12 weeks).

Host institution: Development Planning Unit
Bartlett School of Architecture and Planning
9 Endsleigh Gardens
London WC1H 0ED, United Kingdom

Work study officer

General description: Training in work study techniques, employee motivation, payment systems; multi-machine allocations and the problems of machine interference.

A feature of the course is the inclusion of training in MTM-X, a self-contained predetermined motion time system for independent application. *Commencing date:* Throughout the year. *Duration:* 5 weeks. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: Fielden House Productivity Centre Ltd.
Fielden House
Mersey Road
West Didsbury, Manchester M20 8QA, United Kingdom

Co-operative development

General description: The world co-operative movement; kinds of co-operatives; strengths and weaknesses of co-operatives in the United States and other developed countries and in developing countries. *Commencing date:* 31 July 1989. *Duration:* 4 weeks. *Qualifications:* Bachelor's degree or equivalent. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* \$US 2,500.

Host institution: International Institute for Development
Graduate School, USDA
600 Maryland Avenue, S.W., Suite 134
Washington, DC 20024, United States of America

Development economics for development practitioners

General description: Historical perspective on economic development; discussion of the theoretical basis for the development process; evaluation of analytical tools for interpretation of development performance; case-studies for evaluation of development policy. *Commencing date:* To be arranged. *Duration:* 3 weeks. *Qualifications:* University degree; introductory economics. English. *Last date for receipt of applications:* To be arranged. *Fee:* To be arranged.

Host institution: Resource Systems Institute
East-West Center
1777 East-West Road
Honolulu, Hawaii 96848, United States of America

Investment promotion and industrial financing/ Promotion des investissements et financement industriel/ Promoción de las inversiones y financiación industrial

International promotion and foreign investment

General description: Market research; market penetration; international trade promotion; exportation means and techniques; international distribution; export finance and pricing; foreign investment. *Commencing date:* To be arranged. *Duration:* 4 months. *Qualifications:* University degree. English, French. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: International Trade Invest Institute
2, avenue de Broqueville, boîte 7
1150 Brussels, Belgium

Projets industriels

Description générale : Séminaire comprenant des exposés et des études de cas en relation avec la genèse, la sélection et la décision de réalisation de projets industriels . les

marchés en amont et en aval; les plans de développement; la faisabilité; le financement; les interventions du secteur public; les techniques d'organisation et de gestion des entreprises. Le séminaire peut être complété par des séjours guidés dans des organismes belges publics et privés. Les participants sont assistés dans la constitution de leur documentation personnelle. Le programme du séminaire est réglé en fonction de la formation, de l'expérience et du plan de carrière des participants. *Début du cours* : A arranger. *Durée* : —. *Qualifications* : Formation universitaire plus expérience professionnelle minimum de 2 ans. Français. *Dernier délai pour la soumission des candidatures* : 3 mois avant la date de début du cours. *Droit d'inscription* : A arranger.

Organisme hôte : Bureau d'ingénieurs-conseils Cadic-Gombert S.A.
123a, chaussée de Charleroi, boîte 7
1060 Bruxelles, Belgique

Promotion des investissements et financement industriel

Description générale : Organisation de séminaires destinés aux cadres du secteur privé ou public sur : l'analyse financière et technique des projets d'investissement; les éléments et principes de la comptabilité; la comptabilité comme outil de gestion budgétaire; les aspects juridiques liés à l'investissement (e.a. propriété industrielle); la stratégie industrielle; la pratique des conseils d'administration. *Début du cours* : A arranger. *Durée* : 2-8 semaines. *Qualifications* : Qualifications professionnelles. Français, anglais. *Dernier délai pour la soumission des candidatures* : —. *Droit d'inscription* : A arranger.

Organisme hôte : Institut belge de formation, d'assistance technique et de transfert de technologie (IBF)
63, rue Mortoye
1040 Bruxelles, Belgique

Zones franches et développement industriel

Description générale : Exposé introductif et visite du port d'Anvers; étude et prospection; prise en charge par la capitainerie du port afin d'être confronté dans la pratique avec les systèmes appliqués; séances d'information complémentaires à la Direction des Douanes et Accises à Bruxelles. *Début du cours* : Toute l'année sauf en juillet et août. *Durée* : 1 semaine-2 mois. *Qualifications* : Niveau universitaire. Français, anglais. *Dernier délai pour la soumission des candidatures* : —. *Droit d'inscription* : —.

Organisme hôte : Havenbedrijf van de Stad Antwerpen
Stadhuis
2000 Antwerpen, Belgique

Industrial project management

General description: Project characteristics; project planning and controlling; engineering; contracting procurement and tendering; commissioning; project feasibility, economy and finance; project organization and administration; project management; techniques; know-how transfer and training; leadership, co-operation and cross-cultural communication. *Commencing date*: 4 September 1989. *Duration*: 3 weeks. *Qualifications*. University degree; several years of experience in project work. English. *Last date for receipt of applications*: 30 June 1989. *Fee*: \$US 5,200.

Host institution: Blanz Corporate Advisers Oy
Höyläämötie 5
00380 Helsinki, Finland

Investment engineering for developing countries

General description: Particular features of the international market for complete plants and typical plant services; investment co-ordination with economic structures; feasibility studies; requirements and methods for tender preparation (import of complete plants); contracting; technical issues of plant design; co-ordination and supervision of implementation; acceptance of plant; systematic production preparation; manufacturer's after-sales service. *Commencing date:* September. *Duration:* 3-4 months. *Qualifications:* Graduates in technical or economic field directly involved in the preparation, implementation, and supervision of investment projects. English. *Last date for receipt of applications:* 30 April 1989. *Fee:* To be arranged.

Host institution: Technische Universität Magdeburg
B.-Bierut Platz 5
3010 Magdeburg, German Democratic Republic

Investment engineering (management and planning of developing projects)

General description: Nature of developing projects; co-ordinating investments into the economic structure; feasibility studies, requirements and evaluation of bids, contracting, technical issues of plant design. *Commencing date:* September. *Duration:* 4 weeks. *Qualifications:* Degree in engineering. English. *Last date for receipt of applications:* 31 May 1989. *Fee:* To be arranged.

Host institution: "Otto von Guericke" University of Technology
P.O. Box 124
3010 Magdeburg, German Democratic Republic

Investment promotion

General description: Market research; market penetration; international trade promotion; exportation means and techniques; international distribution; export finance and pricing; foreign investment. *Commencing date:* 2 August 1989. *Duration:* 7 weeks. *Qualifications:* University degree. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* —.

Organizer: Japan International Co-operation Agency (JICA)
Training Affairs Department
Shinjuku-Mitsui Building, 48th floor
1,2-chome, Nishi Shinjuku, Shinjuku-Ku
Tokyo 160, Japan

Venue: Riyadh, Saudi Arabia

Financial management

General description: Cost and financial accounting, reporting; accounting information systems; financial ratios; working capital management, investment appraisal and capital budgeting; financial markets in developing countries; financial planning; assignment. *Commencing date:* 14 August 1989. *Duration:* 13 weeks. *Qualifications:* Degree in accounting, economics, business administration or related science; 3-5 years of experience. English. *Last date for receipt of applications:* 15 May 1989. *Fee:* f. 15,500.

Host institution: Netherlands International Institute for Management (RVB)
Executive Development Programmes
P.O. Box 143
Mijnbouwplein 11
2600 AC Delft, Netherlands

Industrial project cycle management

General description: National, regional and sectoral planning; industrialization policies; stages of the project development cycle; market analysis and plant capacity; technical analysis; financial analysis; social and economic analysis; elements of industrial promotion; project implementation; project management, control and evaluation; computer simulation model (COMFAR); practical assignments. *Commencing date:* 15 January 1990. *Duration:* 3 months. *Qualifications:* Degree in business administration, economics, engineering or a related subject from a recognized university; 3-5 years of creditable practical experience in a related field. English. *Last date for receipt of applications:* 15 October 1989. *Fee:* f. 15,500.

Host institution: Netherlands International Institute for Management (RVB)
P.O. Box 143
Mijnbouwplein 11
2600 AC Delft, Netherlands

Industrial project preparation, evaluation and financing

General description: Market research and demand forecasting; technical analysis; financial evaluation; socio-economic cost-benefit approach; computer classes; UNIDO Computer Model for Feasibility Analysis and Reporting (COMFAR); study tours and field visits. *Commencing date:* 5 June 1989, 6 June 1990. *Duration:* 5 weeks. *Qualifications:* Some experience in projects preparation and evaluation. English. *Last date for receipt of applications:* April 1989, 1990. *Fee:* —.

Host institution: Central School of Planning and Statistics
A1. Niepodlegosci 162
02-554 Warsaw, Poland

Technology acquisition and project preparation

General description: Preparation and evaluation of industrial projects involving purchase of foreign technology; project development cycle; feasibility study; financial and economic analysis, bidding and tendering; contract negotiations with special emphasis on restrictive provisions and technology-based terms; use of computer techniques for negotiation purposes and project evaluation (COMFAR). *Commencing date:* 10 September 1990. *Duration:* 4 weeks. *Qualifications:* English. *Last date for receipt of applications:* June 1990. *Fee:* —.

Host institution: Central School of Planning and Statistics
A1. Niepodlegosci 162
02-554 Warsaw, Poland

Finance for executives

General description: Essential elements of corporate finance; integrated overview of the financial dimensions of policies and operations; financial accounting and reporting; financial analysis and working capital; investment discussions; management; financing and evaluation. *Commencing date:* 1 March, 1 June, 1 September, 1 October, 1 November. *Duration:* 4 weeks. *Qualifications:* Middle level managers. English. *Last date for receipt of applications:* —. *Fee:* \$US 6,000 (including board).

Host institution: AMU International
S. Bulltofv. 21
212 22 Malmö, Sweden

Investment planning and appraisal for development finance institutions

General description: The principles and practice of project identification, promotion, appraisal and implementation from the viewpoint of the private and public sectors; social cost-benefit analysis; investment analysis, portfolio management, project financing; management of financial institutions and contacts with manufacturing industry and agriculture. *Commencing date:* 17 April 1989. *Duration:* 12 weeks. *Qualifications:* University degree; several years of relevant experience. English. *Last date for receipt of applications:* —. *Fee:* £5,100 (including accommodation).

Host institution: The Project Planning Centre
University of Bradford
Bradford, Yorkshire BD7 1DP, United Kingdom

Planning and appraisal of industrial projects

General description: The principles and practice of project identification and appraisal; the role of finance, markets, technology and management in establishing industrial projects; the techniques of social cost-benefit analysis; wider issues and problems of industrial strategy, planning and development. *Commencing date:* 5 January 1989. *Duration:* 12 weeks. *Qualifications:* University degree or equivalent in any relevant subject; several years of relevant experience. English. *Last date for receipt of applications:* —. *Fee:* £5,100 (including accommodation).

Host institution: The Project Planning Centre
University of Bradford
Bradford, Yorkshire BD7 1DP, United Kingdom

Project management

General description: The objective of the course is to update participants, experience in project management and improve their abilities to identify the critical success factors for successful management of projects. *Commencing date:* 5 June 1989. *Duration:* 10 weeks. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: Price Waterhouse
The Urwick Management Centre
Baylis House
Stoke Poges Lane, Slough, Berkshire SL1 3PF, United Kingdom

Project management

General description: The changing face of management; managing people; introduction to project management; management information for decisions; project appraisal and evaluation; project planning and control systems; resource management; project implementation; value of management services; structured visits; case-study; an integrated development project. *Commencing date:* April. *Duration:* 12 weeks. *Qualifications:* Graduates. English. *Last date for receipt of applications:* 8 weeks before commencing date. *Fee:* Approximately £3,400.

Host institution: Royal Institute of Public Administration
Regent's College, Inner Circle, Regent's Park
London NW1 4NS, United Kingdom

Project analysis

General description: Participants will develop the knowledge and skills to: analyse projects; identify critical factors; estimate benefits and costs; distinguish between

financial and economic analysis; estimate financial and economic impacts; identify risks, complications, and methods for their inclusion in the analysis; and present data on alternative projects for comparison. The course includes the following: a broad overview of project analysis; financial analysis; business management; economic analysis. Field trips allow practice in data collection, partial budget analysis, and the economic analysis of development projects. *Commencing date:* 27 March, 10 July 1989. *Duration:* 4 weeks. *Qualifications:* Bachelor's degree or equivalent. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* \$US 2,500.

Host institution: International Institute for Development
Graduate School, USDA
600 Maryland Avenue, S.W., Suite 134
Washington, DC 20024, United States of America

Project management/evaluation

General description: The course emphasizes the application of management concepts in the identification and design of development projects. It centres on the skills necessary in selecting and preparing project plans that can fulfil the project goals while retaining the flexibility to respond to problems arising during the implementation stage. Topics include a perspective of products and their role in development, the identification of project needs, use of logical framework analysis, formulating project proposals, network analysis using PERT and CPM, formulating organizational structures considering leadership requirements and interagency co-ordination problems, consideration of the human dynamics of project planning with particular emphasis on local involvement, and home country applications. *Commencing date:* 6 March, 19 June 1989. *Duration:* 3 weeks. *Qualifications:* Bachelor's degree or equivalent. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* \$US 1,500.

Host institution: International Institute for Development
Graduate School, USDA
600 Maryland Avenue, S.W., Suite 134
Washington, DC 20024, United States of America

Maintenance and repair/Entretien et réparation/ Mantenimiento y reparación

Maintenance of electrical equipment and installation

General description: Maintenance and repair of electrical equipment; preventive maintenance; field maintenance system; trouble-shooting; spare parts system. *Commencing date:* Throughout the year except in July and August. *Duration:* 6-10 weeks. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* To be arranged. *Fee:* S 24,000 per week.

Host institution: Chemserv Consulting GmbH
St. Peterstrasse 25
4021 Linz, Austria

Maintenance of instrumentation

General description: Organization of instrument department; the pneumatic transmitter; pressure/temperature measurement and calibration systems; pneumatic computers; trouble-shooting, repair and calibration of all pneumatic, electropneumatic and fine mechanical instruments in workshop, and of all electric and electronic measuring

devices. *Commencing date:* Throughout the year except in July and August. *Duration:* 6-10 weeks. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* To be arranged. *Fee:* S 24,000 per week.

Host institution: Chemserv Consulting GmbH
St. Peterstrasse 25
4021 Linz, Austria

Maintenance of production facilities

General description: Starting up and shutting down systems; overhaul procedures; spare parts—stock lists; specific maintenance programmes (on request) for ammonia plants, urea plants or complex fertilizer plants. *Commencing date:* Throughout the year except in July and August. *Duration:* 6-10 weeks. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* To be arranged. *Fee:* S 24,000 per week.

Host institution: Chemserv Consulting GmbH
St. Peterstrasse 25
4021 Linz, Austria

Maintenance planning

General description. Staff organization; work order processing; arrangement of working place and logistics; scheduling; material and tool administration; capacity and term planning; preventive maintenance; code; cost; operation manual for electronic data processing systems. *Commencing date:* Throughout the year except in July and August. *Duration:* 4-6 weeks. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* To be arranged. *Fee:* S 24,000 per week.

Host institution: Chemserv Consulting GmbH
St. Peterstrasse 25
4021 Linz, Austria

Maintenance industrielle

Description générale : Séminaire sur les systèmes de gestion de maintenance adaptés aux conditions d'exploitation dans les pays en développement, en particulier la problématique des pièces de rechange, la documentation technique, l'organisation et la planification de la maintenance ainsi que les mesures à prendre lors de l'achat d'équipement. Atelier de maintenance. Stage pratique complété par des visites d'usines. *Début du cours :* Toute l'année sauf en juillet et août. *Durée :* 1-3 mois. *Qualifications :* Technicien supérieur ou ingénieur. *Dernier délai pour la soumission des candidatures :* —. *Droit d'inscription :* A arranger.

Organisme hôte : DGS international SA
Jubilaumlaan 75
9000 Gand, Belgique

Formation supérieure de cadres de maintenance industrielle

Description générale : Permettre à des cadres ou des responsables possédant une expérience industrielle d'acquérir une formation complémentaire ou nouvelle en maintenance. *Début du cours :* Novembre 1989. *Durée :* 960 heures. *Qualifications :*

Ingénieurs ou assimilés, adjoints technique de maintenance, responsables de maintenance. *Dernier délai pour la soumission des candidatures* : 2 mois avant la date de début du cours. *Droit d'inscription* : FF 33 900.

Organisme hôte : Institut national des sciences appliquées de Lyon (INSA)
Formation Continue
Bâtiment 601
20, avenue Albert Einstein
69621 Villeurbanne, Cedex, France

Irrigation engineering

General description: Irrigation engineering; pump selection, repair and maintenance; water supply; water distribution. **Commencing date:** To be arranged. **Duration:** 13 weeks. **Qualifications:** Diploma or Bachelor of Science or several years of experience. English, French. **Last date for receipt of applications:** 28 February. **Fee:** DM 10,424 (including study materials, protective clothing, study tour).

Host institution: Deutsche Lehranstalten für Agrartechnik (DEULA)
P.O. Box 120134
6100 Darmstadt, Federal Republic of Germany

Maintenance and repair of internal combustion engines and farm tractors

General description: Tractor terminology; power performance; preventive maintenance; diagnosis and testing; repair of engines, hydraulics, electrical system, transmission; workshop organization; parts management; training of personnel. **Commencing date:** To be arranged. **Duration:** 13 weeks. **Qualifications:** Diploma or Bachelor of Science or several years of experience. English, French, Spanish, Portuguese. **Last date for receipt of applications:** 28 February. **Fee:** DM 8,984 (including study materials, protective clothing, study tour).

Host institution: Deutsche Lehranstalten für Agrartechnik (DEULA)
P.O. Box 120134
6100 Darmstadt, Federal Republic of Germany

Industrial maintenance

General description: Maintenance management systems, organization and computerized procedures; operational maintenance: equipment design factors; industrial control system: types, checks and test routines; maintenance applied to industrial programmable equipment. **Commencing date:** 1 October 1989. **Duration:** 9 months. **Qualifications:** Hong Kong Polytechnic Higher Certificate in mechanical, electronic or electrical engineering or equivalent. English, Cantonese. **Last date for receipt of applications:** 1 May 1989. **Fee:** \$HK 1,450.

Host institution: Industrial Centre
Hong Kong Polytechnic
Hung Hom
Kowloon, Hong Kong

Operation and maintenance of agricultural machines

General description: The role, tasks and purpose of mechanization in agricultural production; principles of using power machines; principles of operating power machines; maintenance of agricultural machines and planning of repair; work and workshop organization in operating agricultural machines. **Commencing date:** To be

arranged. *Duration:* 4 months. *Qualifications:* High level qualifications. English, Arabic (or to be arranged upon request). *Last date for receipt of applications:* To be arranged. *Fee:* To be arranged.

Organizer: International Training Centre, Vép
in collaboration with
Organization for International Technical and Scientific Co-operation
(TESCO)
Rosenberg hsp. utca 21
1051 Budapest, Hungary

Operation and maintenance of equipment for special maize production

General description: Policy and organization of agricultural co-operatives; work and workshop organization; plant growing, special knowledge on production technology; operation and repair of agricultural power machines and self-propelled machines; operation, adjustment and repair of agricultural machines; labour safety and environmental protection; maintenance and storing of agricultural machines; practice in operation technology. *Commencing date:* To be arranged. *Duration:* 9 months. *Qualifications:* Basic or medium level qualifications. English, Arabic (or to be arranged upon request). *Last date for receipt of applications:* To be arranged. *Fee:* To be arranged.

Organizer: International Training Centre, Vép
in collaboration with
Organization for International Technical and Scientific Co-operation
(TESCO)
Rosenberg hsp. utca 21
1051 Budapest, Hungary

Operation, maintenance and repair of agricultural power machines and other machines

General description: Operation of machines in agriculture; various machines; maintenance of agricultural machines; repair of agricultural power machines and machines. *Commencing date:* Throughout the year. *Duration:* 6 months. *Qualifications:* Medium or high level qualifications. English, Arabic (or to be arranged upon request). *Last date for receipt of applications:* To be arranged. *Fee:* To be arranged.

Organizer: International Training Centre, Vép
in collaboration with
Organization for International Technical and Scientific Co-operation
(TESCO)
Rosenberg hsp. utca 21
1051 Budapest, Hungary

Repair shops management

General description: The structure and operation of agricultural power machines; repair and maintenance of agricultural machines; planning, organization and control of agricultural repair workshops, their management, work and workshop organization. *Commencing date:* To be arranged. *Duration:* 9 months. *Qualifications:* Medium or high level qualifications. English, Arabic (or to be arranged upon request). *Last date for receipt of applications:* To be arranged. *Fee:* To be arranged.

Organizer: International Training Centre, Vép
in collaboration with
Organization for International Technical and Scientific Co-operation
(TESCO)
Rosenberg hsp. utca 21
1051 Budapest, Hungary

Tractor maintenance and driving

General description: Plant production, basic technical knowledge; agricultural power machines and implements; traffic, labour safety and environmental protection.

Commencing date: To be arranged. *Duration:* 9 months. *Qualifications:* Basic qualifications. English, Arabic (or to be arranged upon request). *Last date for receipt of applications:* To be arranged. *Fee:* To be arranged.

Organizer: International Training Centre, Vép
in collaboration with
Organization for International Technical and Scientific Co-operation
(TESCO)
Rosenberg hsp. utca 21
1051 Budapest, Hungary

Maintenance

General description: Maintenance organization and maintenance management for all kinds of industrial, agricultural and service-industrial purposes; machine maintenance, bearings, lubricating oils and greases, cleaning and finishing metals, machining processes, welding and soldering, all kind of engines; mathematics and statistics, organization; external courses and excursions, in collaboration with Dutch industry. *Commencing date:* January, August 1989. *Duration:* 16 weeks. *Qualifications:* Junior and senior maintenance officers involved in company training courses and teachers of technical institutes; education at secondary school level at least; 2 years of relevant job experience; between 25 and 35 years of age. English. *Last date for receipt of applications:* 3 months before commencing date. *Fee:* To be arranged.

Host institution: International Institute for Technology and Management (IITM)
P.O. Box 1075
7500 BB Enschede, Netherlands

Increasing durability of machines

General description: Fatigue of materials used in various industrial machines; material wear-resistance characteristics; machine dynamics; damage of machine components due to fatigue; friction and corrosion; the most frequent failure of machine parts; technological methods enhancing their durability; regeneration, surface treatment of moving and non-moving parts; heat diffusion treatment and protective coating; quality testing; preventive maintenance; economic aspects of part regeneration in overall life extension of machines. *Commencing date:* To be arranged. *Duration:* 2 months. *Qualifications:* Technicians and engineers specialized in mechanical engineering. English. *Last date for receipt of applications:* 2 months before commencing date. *Fee:* To be arranged.

Host institution: Association of Polish Mechanical Engineers and Technicians
(SIMP)
Staff Upgrading Centre
Mickiewicza 9
01-517 Warsaw, Poland

Operation and maintenance of electric power generation plants (up to 200 MW)

General description: Operation, running, control, testing, measurements, maintenance and repair of steam electric power generation plants; safety at work and plant management. *Commencing date:* To be arranged. *Duration:* 6 months. *Qualifications:* Technicians and engineers specialized in related trades (mechanical, electrical and

control instrumentation engineering). English. *Last date for receipt of applications:* 3 months before commencing date. *Fee:* To be arranged.

Host institution: Association of Polish Mechanical Engineers and Technicians (SIMP)
Staff Upgrading Centre
Mickiewicza 9
01-517 Warsaw, Poland

Applied maintenance

General description: Organizational, practical and economic aspects of managing a medium-size enterprise: maintenance theory; skills-related theory; electricity; pneumatics and hydraulics; repair. *Commencing date:* February, September. *Duration:* 8 weeks. *Qualifications:* Craftsmen and technicians. English. *Last date for receipt of applications:* —. *Fee:* \$US 10,400 (including full board).

Host institution: AMU International
S. Bulltoftav. 21
212 22 Malmö, Sweden

Corrosion and corrosion control

General description: Problems, economic penalties, safety, industries affected; corrosion: definition, electrochemical, oxidation, laboratory testing, field tests, research and development; metallurgy: structure of metals, heat treatments, welding; forms of corrosion; uniform, pitting, crevice, fretting, erosion, stress, fatigue, bacterial; corrosion control: materials selection, corrosion inhibitors, cathodic and anodic protection, coatings; corrosion inspection and monitoring; failure analysis; corrosion prevention by design. *Commencing date:* To be arranged. *Duration:* —. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: Corrosion Monitoring Consultancy—CMC
5 Old School Gardens
School Lane
Eaton Socon, St. Neots
Cambridgeshire PE19 3JB, United Kingdom

Corrosion monitoring

General description: Corrosion management with emphasis to internal corrosion in process streams; industries covered: oil/gas, chemical/petrochemical production, cooling water systems/potable water, civil engineering, marine; corrosion audits/surveys of structures/plant. *Commencing date:* To be arranged. *Duration:* —. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: Corrosion Monitoring Consultancy—CMC
5 Old School Gardens
School Lane
Eaton Socon, St. Neots
Cambridgeshire PE19 3JB, United Kingdom

Management and maintenance of physical assets

General description: The course is designed to enable participants to identify organizational and operational problems and to suggest practical and economic solutions. Participants will also be able to develop maintenance policies relating to their own sector, ensuring that plant and equipment are available and operating to agreed standards at an economic cost. There is also a mid-course, a 2-week

attachment tailored to suit the needs of individual participants built into the programme. *Commencing date:* January, September. *Duration:* 12 weeks. *Qualifications:* Middle grade engineers who have responsibility for maintenance procedures. English. *Last date for receipt of applications:* 4 weeks before commencing date. *Fee:* £6,020 (fully residential).

Host institution: Crown Agents
Training Services
St. Nicholas House
Sutton, Surrey SMI 1EL, United Kingdom

Mechanical and electrical maintenance

General description: Practical training in the maintenance of both electrical and mechanical machines and equipment. *Commencing date:* February, August. *Duration:* 13 weeks. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: Metcon Training
14 Pall Mall
London, United Kingdom

Planned maintenance management

General description: The objective of the course is to impart the knowledge and skills necessary to enable managers to plan and control the maintenance function within their organizations and to highlight methods of appraisal, analysis and improvement. *Commencing date:* 12 February, 21 May, 17 September, 12 November 1989, 21 January, 4 March 1990. *Duration:* 5 weeks. *Qualifications:* A good level of basic education; some relevant experience. English. *Last date for receipt of applications:* 6 weeks before commencing date. *Fee:* £4,830 (residential).

Host institution: Rayfield Consultancy & Training Ltd.
Melrose House
Broadlayings
Woolton Hill
Newbury, Berkshire RG15 9TT, United Kingdom

Management and industrial administration/Gestion et administration industrielle/ Gestión y administración industrial

Connaissances de gestion

Description générale : Les obligations du chef d'entreprise; les cotisations sociales; les charges professionnelles; l'amortissement; la vente; débit, crédit; les systèmes bancaires; le crédit de caisse; l'escompte; financement des investissements; seuil de la rentabilité; taux de rotation des stocks; incidence de la variation des stocks sur le résultat. *Début du cours :* Toute l'année sauf en juillet et août. *Durée :* —. *Qualifications :* Qualifications professionnelles. Français. *Dernier délai pour la soumission des candidatures :* —. *Droit d'inscription :* A arranger.

Organisme hôte : Centre de coopération et de recherche pédagogique et technique
(CREPT)
Université du travail Paul Pastur
1, boulevard Roullier
6000 Charleroi, Belgique

Conseiller opérationnel en gestion d'entreprise

Description générale : Modules introductifs; séminaire sur le développement; économie; comptabilité générale; comptabilité analytique; diagnostic de l'entreprise; gestion financière; gestion informatisée; organisation commerciale; droit, législation; organisation du travail; application à la création d'une petite et moyenne entreprise; stage en entreprise. *Début du cours* : Février, août. *Durée* : 20 semaines. *Qualifications* : Etre titulaire d'un baccalauréat ou équivalent ou justifier d'une expérience professionnelle suffisante. *Dernier délai pour la soumission des candidatures* : 15 janvier, 15 juillet. *Droit d'inscription* : FB 90 000.

Organisateur : Centre interuniversitaire de formation permanente (CIFOP)
1B, avenue Général Michel
6000 Charleroi, Belgique

En collaboration avec :
Institut des affaires publiques
1B, avenue Général Michel
6000 Charleroi, Belgique

Lieu : Les modules de cette formation peuvent être présentés soit à Charleroi, soit dans un pays en développement.

Diagnostique d'entreprises ou de départements

Description générale : Diagnostique généraux d'entreprises, départements ou de services; analyse des fonctions, validité des outils de gestion; fiabilités des informations, systèmes et procédures; rentabilité; stratégie d'entreprise; études de marchés. *Début du cours* : A arranger. *Durée* : —. *Qualifications* : Minimum baccalauréat ou niveau équivalent. Français, anglais, néerlandais, allemand. *Dernier délai pour la soumission des candidatures* : —. *Droit d'inscription* : A arranger.

Organisme hôte : Helping SA
38, avenue Montjoie
1180 Bruxelles, Belgique

Expertise comptable

Description générale : Pratique du droit fiscal; organisation et rendement des entreprises; économie politique; plans et monographies comptables des bilans; techniques du contrôle comptable. *Début du cours* : Toute l'année sauf en juillet et août. *Durée* : —. *Qualifications* : Qualifications professionnelles. Français. *Dernier délai pour la soumission des candidatures* : —. *Droit d'inscription* : A arranger.

Organisme hôte : Centre de coopération et de recherche pédagogique et technique (CREPT)
Université du travail Paul Pastur
1, boulevard Roullier
6000 Charleroi, Belgique

Gestion des entreprises

Description générale : Séminaire organisé par des ingénieurs-conseils spécialisés en organisation et gestion des entreprises. Exposés et études de cas suivant un programme réglé d'après les domaines d'intérêt des participants, par exemple : gestion du personnel; comptabilité, recherche opérationnelle, gestion budgétaire; organisation des approvisionnements et gestion des stocks; organisation de la production; étude du travail; entretien des équipements, choix des investissements, organisation des ventes. Le séminaire peut être complété par des séjours guidés dans des entreprises et organismes publics belges. *Début du cours* : A arranger. *Durée* : —.

Qualifications : Formation universitaire plus expérience professionnelle minimum de 2 ans. Français. **Dernier délai pour la soumission des candidatures** : 2 mois avant la date de début du cours. **Droit d'inscription** : A arranger.

Organisme hôte : Bureau d'ingénieurs-conseils Cadic-Gombert SA
123a, Chaussée de Charleroi, boîte 7
1060 Bruxelles, Belgique

Gestion des ressources humaines

Description générale : Sélection, analyse de postes, définition et classification des fonctions; politiques d'évaluation, de formation, de motivation et de rémunération du personnel; relations industrielles. **Début du cours** : A arranger. **Durée** : —.

Qualifications : Minimum baccalauréat ou niveau équivalent. Français, anglais, néerlandais, allemand. **Dernier délai pour la soumission des candidatures** : —. **Droit d'inscription** : A arranger.

Organisme hôte : Helping SA
38, avenue Montjoie
1180 Bruxelles, Belgique

Gestion des ressources humaines de l'entreprise

Description générale : Séminaire sur les objectifs de la fonction de gestion du personnel de l'entreprise, son organisation, ses méthodes et techniques dans son action sur les relations entre le travailleur et l'entreprise : embauche, accueil, intégration, promotion, rémunération, formation, relations industrielles, etc. Il comprend des exposés et des études de cas adaptés au milieu économique et social familier aux participants. **Début du cours** : A arranger. **Durée** : —. **Qualifications** : Formation universitaire; expérience professionnelle minimum de 2 ans. Français. **Dernier délai pour la soumission des candidatures** : 3 mois avant la date de début du séminaire. **Droit d'inscription** : A arranger.

Organisme hôte : Bureau d'ingénieurs-conseils Cadic-Gombert SA
123A, chaussée de Charleroi, boîte 7
1060 Bruxelles, Belgique

Organisation et gestion des entreprises

Description générale : Stage individuel organisé par des ingénieurs-conseils spécialisés en organisation et gestion des entreprises. Comprend des exposés et discussions, des lectures dirigées d'ouvrages généraux et de rapports d'études, des séjours guidés dans des entreprises et organismes publics belges, la constitution d'une documentation personnelle, la rédaction du rapport de stage. Programme du stage fixé de commun accord en fonction de la formation et de l'expérience du stagiaire ainsi que de son plan de carrière. Sujets pouvant relever des divers domaines de la gestion tels que la direction générale, la direction du personnel, la production, les ventes, la gestion des équipements, la gestion des approvisionnements. **Début du cours** : A arranger. **Durée** : —. **Qualifications** : Formation universitaire; expérience professionnelle minimum de 2 ans. Français. **Dernier délai pour la soumission des candidatures** : 3 mois avant la date de début du cours. **Droit d'inscription** : A arranger.

Organisme hôte : Bureau d'ingénieurs-conseils Cadic-Gombert SA
123a, chaussée de Charleroi, boîte 7
1060 Bruxelles, Belgique

Management and marketing (furniture and joinery industry)

General description: Company planning and strategies in small-scale, moderate and advanced furniture manufacturing; international marketing and forecasting techniques; product design and adaptation for export; new trends in production management and technology; investment calculations, cost control of labour-, material- and technical inputs; personnel management and productivity; international, regional, national and in-company training for furniture and joinery industry; transfer of know-how techniques *Commencing date:* 7 August 1989. *Duration:* 3 weeks. *Qualifications:* Managers from furniture and joinery industry, government officials, experienced teachers or instructors familiar with the furniture industry. *Last date for receipt of applications:* 16 June 1989. *Fee:* \$US 5,200.

Host institution: Blanz Corporate Advisers Oy
Höyläämötie 5
00380 Helsinki, Finland

Techniques et gestion de la production pour cadres

Description générale : Formation complémentaire en technique de fabrication en organisation et gestion de la production (manuelle et assistée par ordinateur). *Début du cours :* Novembre 1989. *Durée :* 5 mois. *Qualifications :* Cadres techniques recherchant une actualisation de leurs connaissances ou une reconversion ou ayant en vue la création d'une entreprise. Français. *Dernier délai pour la soumission des candidatures :* 2 mois avant la date de début du cours. *Droit d'inscription :* FF 25 800.

Organisme hôte : Institut national des sciences appliquées de Lyon (INSA)
Formation continue
Bâtiment 601
20, avenue Albert-Einstein
69621 Villeurbanne, Cedex, France

Management of workshops

General description: Workshop planning; parts management; health, safety and environmental measures; personnel management; economic performance of machinery. *Commencing date:* To be arranged. *Duration:* 11 weeks. *Qualifications:* Managers and other workshop professionals. English, French. *Last date for receipt of applications:* 28 February. *Fee:* DM 10,180 (including study materials, protective clothing, study tour).

Host institution: Deutsche Lehranstalten für Agrartechnik (DEULA)
P.O. Box 120134
6100 Darmstadt, Federal Republic of Germany

Technology and development

General description: Management training for developing countries consisting of: seminars on general management topics, such as calculation of costs, feasibility studies, marketing, presentation techniques, industrial planning; practical training in German companies and consultancies; practical training in companies and consultancies in the home country. *Commencing date:* January. *Duration:* 12 months. *Qualifications:* Diploma from a German university or equivalent. German. *Last date for receipt of applications:* September. *Fee:* —.

Host institution: Centre for Technological Co-operation (CTC)
Technical University of Berlin
Skr. HAS
Strasse des 17. Juni 135
D-1000 Berlin (West) 12

Organization of industrial and agricultural co-operatives

General description: The principles of management in agricultural, industrial, consumers and financial co-operatives; association of agricultural co-operatives; organization of special co-operatives and specialized work teams, their economic development; marketing in co-operatives; the role of consumers co-operatives in trade. *Commencing date:* To be arranged. *Duration:* 1 month. *Qualifications:* Medium or high level qualifications. English, Arabic (or to be arranged upon request). *Last date for receipt of applications:* To be arranged. *Fee:* To be arranged.

Organizer: International Training Centre, Vép
in collaboration with
Organization for International Technical and Scientific Co-operation
(TESCO)
Rosenberg hsp. utca 21
1051 Budapest, Hungary

Effective chief executive

General description: The skills and techniques required by the chief executive with particular reference to corporate planning, team building, and the use of financial information. *Commencing date:* 10 April 1989. *Duration:* 6 weeks. *Qualifications:* Chief executive status or in line for promotion thereto. English. *Last date for receipt of applications:* 28 February 1989. *Fee:* £1r 5,900 (residential).

Host institution: Irish Management Institute
Sandyford Road
Dublin 16, Ireland

Management development

General description: The programme covers the theory and practice of successful business management and the main functional areas of marketing, finance, personnel and production. *Commencing date:* 5 September 1989. *Duration:* 8 weeks. *Qualifications:* At least 5 years of experience in middle or senior management. English. *Last date for receipt of applications:* 31 July 1989. *Fee:* £1r 7,500 (residential).

Host institution: Irish Management Institute
Sandyford Road
Dublin 16, Ireland

Public enterprise in-plant management

General description: The objective of the programme is to increase the capacity of each participant to manage effectively a functional or technical unit. The main module will consist of a 4-week in-plant assignment specially designed to meet the participants' needs. *Commencing date:* 7 August 1989. *Duration:* 2 weeks. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* 30 June 1989. *Fee:* £1r 5,400 (including accommodation, £1r 7,400).

Host institution: Institute of Public Administration
57-61 Lansdowne Road
Dublin 4, Ireland

Design management

General description: Innovative marketing and communications; design management; communications and images; the post-industrial market-place; computerized systems. *Commencing date:* 9 May, 1 November 1989, 1990. *Duration:* 12 days.

Qualifications: Graduation. **Last date for receipt of applications:** January 1989, 1990.
Fee: Lit 3,000,000 (plus taxes).

Host institution: Domus Academy
Edificio 1/C
Milanofiori
20090 Assago, Milan, Italy

Industrial engineering applications (specific industry group)

General description: Management techniques to streamline work; operation analysis; work measurement; design process; method study; cost reduction and productivity improvement; standardization. **Commencing date:** To be arranged. **Duration:** 3 weeks. **Qualifications:** Industrial engineers in manufacturing industry, of national productivity organizations or similar institutions of APO member countries. English. **Last date for receipt of applications:** 3 months before commencing date. **Fee:** \$US 100 for participants from profit-making organizations.

Organizer: Asian Productivity Organization (APO)
4-14 Akasaka 8-chome
Minato-ku
Tokyo 107, Japan

Venue: Japan

Motivation for productivity

General description: Full-day classes consisting of lectures, discussions, exercises and visits related to: theoretical motivation framework; Japanese industrial relations system as related to worker motivation; management organization with reference to decision-making; wage and salary systems; fringe benefits and welfare systems; voluntary group activities within an enterprise; labour practices in Japanese joint ventures overseas; overall evaluation of Japanese practices by foreign industrial managers stationed in Japan. **Commencing date:** To be arranged. **Duration:** 4 weeks. **Qualifications:** Senior managers, labour union officials, government officials directly dealing with industrial relations and senior consultants of national productivity organizations or similar institutions of APO-member countries. English. **Last date for receipt of applications:** 3 months before commencing date. **Fee:** \$US 100 for participants from profit-making organizations.

Organizer: Asian Productivity Organization (APO)
4-14 Akasaka 8-chome
Minato-ku
Tokyo 107, Japan

Venue: Japan

Senior management consultants

General description: Full-day classes consisting of lectures, discussions, exercises and visits related to: management consultancy in the participants' countries; overview of industry and management in Japan; review of analytical techniques in consultancy; review of industrial engineering practices; professional management consultancy practices; integrated business diagnosis. **Commencing date:** To be arranged. **Duration:** 8 weeks. **Qualifications:** Senior management consultants of national productivity organizations or similar institutes of APO-member countries. English.

Last date for receipt of applications: 3 months before commencing date. *Fee:* \$US 200 for participants from profit-making organizations.

Organizer: Asian Productivity Organization (APO)
4-14 Akasaka 8-chome
Minato-ku
Tokyo 107, Japan

Venue: Japan

Systematic problem-solving in production management

General description: Lectures, discussions, exercises, case-studies and plant visits related to: identification, detection and definition of problems; total productivity measurement; profitability analysis; problem-solving in the area of systems and procedures and of business strategy; application of ergonomics, behaviour modelling for productivity, small group activities. *Commencing date:* To be arranged. *Duration:* 6 weeks. *Qualifications:* Senior production managers in manufacturing plants, senior production/industrial engineers and consultants of national productivity organizations or similar institutions of APO-member countries. *English.* *Last date for receipt of applications:* 3 months before commencing date. *Fee:* \$US 200 for participants from profit-making organizations.

Organizer: Asian Productivity Organization (APO)
4-14 Akasaka 8-chome
Minato-ku
Tokyo 107, Japan

Venue: Japan

Tools for managerial decision-making

General description: Lectures, discussions, exercises, case-studies, business games, and visits related to: computer programming; principles and techniques in the analysis and design of information systems; application of quantitative methods in industrial management; decision-making in industrial management. *Commencing date:* To be arranged. *Duration:* 6 weeks. *Qualifications:* Senior systems/industrial engineering trainers and consultants of national productivity organizations or similar institutes, university staff teaching production engineering and management and senior managers in industry of APO-member countries. *English.* *Last date for receipt of applications:* 3 months before commencing date. *Fee:* \$US 200 for participants from profit-making organizations.

Organizer: Asian Productivity Organization (APO)
4-14 Akasaka 8-chome
Minato-ku
Tokyo 107, Japan

Venue: Japan

Advanced consultancy skill

General description: Analysis of own problem areas; tools for consultancy work; behavioural skills of consultancy; organizational setting of consultancy work; guided group-exercise in consultancy activities; preparation of a plan for future action. *Commencing date:* To be arranged. *Duration:* 9 weeks. *Qualifications:* Degree in business administration, economics, engineering or a related subject; 5 years of

credible practical experience in a relevant field. English. *Last date for receipt of applications*: —. *Fee*: f. 12,920.

Host institution: Netherlands International Institute for Management (RVB)
P.O. Box 143
Mijnbouwplein 11
2600 AC Delft, Netherlands

Co-operative management and consultancy

General description: Introduction to the general and functional areas of management; exposure to co-operative thinking and modes; exposure to the processes involved in consultancy work; field-work where a given "case" is identified and left to the participant to tackle. *Commencing date*: To be arranged. *Duration*: —. *Qualifications*: Degree in business administration, economics, engineering or a related subject from a recognized university; 3-5 years of credible practical experience in a relevant field. English. *Last date for receipt of applications*: —. *Fee*: f. 15,500.

Host institution: Netherlands International Institute for Management (RVB)
P.O. Box 143
Mijnbouwplein 11
2600 AC Delft, Netherlands

Financial management

General description: The accounting function: financial accounting and reporting cost accounting, accounting information systems; the finance function: financial ratios, working capital management, investment appraisal and capital budgeting, capital markets in developing countries, financial planning; related topics: managerial skill development, computers in small- and medium-size organizations, small industry promotion; practical assignments. *Commencing date*: 14 August 1989, 13 August 1990. *Duration*: 3 months. *Qualifications*: Degree in business administration, economics, accounting or a related subject from a recognized university; 3-5 years of credible practical experience in a relevant field. English. *Last date for receipt of applications*: 15 May 1989, 1990. *Fee*: f. 15,500.

Host institution: Netherlands International Institute for Management (RVB)
P.O. Box 143
Mijnbouwplein 11
2600 AC Delft, Netherlands

General management for state enterprises

General description: Analysis of the socio-economic environment with a view to socio-economic objectives; pricing; marketing management, financial management, sources of finance, public investment analysis; human resource management; strategic planning and design; management guidance and control; alternative methods of public ownership; practical assignments. *Commencing date*: 14 August 1989, 13 August 1990. *Duration*: 3 months. *Qualifications*: Degree in business administration, economics, engineering or a related subject from a recognized university; 3-5 years of credible practical experience in a relevant field. English. *Last date for receipt of applications*: 15 May 1989, 1990. *Fee*: f. 15,500.

Host institution: Netherlands International Institute for Management (RVB)
P.O. Box 143
Mijnbouwplein 11
2600 AC Delft, Netherlands

Industrial estates and complexes

General description: Management and planning aspects of industrial estates and complex development. The training programme provides for a series of personalized introductions on development planning of industry and infrastructure, physical planning, location aspects, environmental planning, investment and costs, layout development, optimization. The programme will include further study of selected literature and field observations. An experienced CBO associate will provide guidance as tutor and programme co-ordinator. *Commencing date:* To be arranged. *Duration:* 8-13 weeks. *Qualifications:* University degree in engineering, economics or business administration, preferably with experience in industry. English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: Centre for Management and Industrial Development (CBO)
Exchange Building
Coolsingel/Meent
P.O. Box 30042
3001 DA Rotterdam, Netherlands

International business

General description: Studies of business practice with emphasis on European Economic Community organizations; training period with an industrial company; trips to EEC institutions; study trips; seminar abroad; study of a foreign language. *Commencing date:* August 1989. *Duration:* 36 weeks. *Qualifications:* Junior students from American or European universities; single, age limit 27 years. English. *Last date for receipt of applications:* 15 April 1989. *Fee:* f. 27,625 (including accommodation).

Host institution: Nijenrode
The Netherlands School of Business
International Affairs
Straatweg 25
3621 BG Breukelen, Netherlands

Management and industrial development

General description: Principles of operational management in industry. The training programme provides for a series of personalized introductions on the development of the product programme and market potentials, production management, technology development, investment planning and costing, operations research, licensing and international industrial collaboration. The programme will further include study of selected literature and field observations. An experienced CBO associate will provide guidance as tutor and programme co-ordinator. *Commencing date:* To be arranged. *Duration:* 8-13 weeks. *Qualifications:* University graduates in engineering, economics or business administration, preferably with experience in industry. English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: Centre for Management and Industrial Development (CBO)
Exchange Building
Coolsingel/Meent
P.O. Box 30042
3001 DA Rotterdam, Netherlands

Management for general managers

General description: Defining and analysing managerial problems; quantitative tools for decision-making; business conditions analysis; environmental scanning; the management of organizations; introduction to business policy and strategic management;

functional areas of policy formulation, i.e. marketing policies, finance policies, manpower policies, production policies, research and development policies; integrated policy and strategy formulation; communication; organization; development; managerial control; practical assignments. *Commencing date:* 15 January 1990. *Duration:* 3 months. *Qualifications:* Degree in business administration, economics, engineering or a related subject from a recognized university; 3-5 years of creditable practical experience in a related field. English. *Last date for receipt of applications:* 15 October 1989. *Fee:* f. 15,500.

Host institution: Netherlands International Institute for Management (RVB)
P.O. Box 143
Mijnbouwplein 11
2600 AC Delft, Netherlands

Management of development finance institutions

General description: Financial management and control, enterprise level; strategic management, sector profiling, priorities, specialization; policies and management; government guaranteed schemes; term lending and (concessional) rates; integrated account management; client development; management information and (computerized) data processing; visits to financial institutions; special topics; practical assignments. *Commencing date:* To be arranged. *Duration:* —. *Qualifications:* Degree in business administration, economics, accounting or a related subject from a recognized university; 3-5 years of creditable practical experience in a relevant field. English. *Last date for receipt of applications:* —. *Fee:* f. 15,500.

Host institution: Netherlands International Institute for Management (RVB)
P.O. Box 143
Mijnbouwplein 11
2600 AC Delft, Netherlands

Managerial control and management information systems

General description: Managerial control systems: cost accounting, managerial control systems, financial reporting standards and practice, internal control systems, behavioural aspects of control; management information systems: organization and information, techniques of information processing, information systems analysis and design, internal control in computer-based systems, financial modelling and decision support, implementation of computerized information systems, workshop microcomputer; practical assignments. *Commencing date:* 15 January 1990. *Duration:* 3 months. *Qualifications:* Degree in business administration, economics, accounting or a related subject from a recognized university; 3-5 years of creditable practical experience in a relevant field. English. *Last date for receipt of applications:* 15 October 1989. *Fee:* f. 15,500.

Host institution: Netherlands International Institute for Management (RVB)
P.O. Box 143
Mijnbouwplein 11
2600 AC Delft, Netherlands

Project management and programme administration (PMC)

General description: Terminology, policy and procedures of international development organizations; planning techniques, budgeting, monitoring; reporting, negotiating, settling problems, motivation; use of microcomputers. *Commencing date:* 4 March, 6 May, 12 August (English); 22 April, 5 August (French). *Duration:* 10 weeks.

Qualifications: English, French. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* f. 22,400 (including accommodation and board).

Host institution: Management for Development Foundation (MDF)
P.O. Box 430
De Bosrand 28
6710 Bk Ede, Netherlands

Project management and programme administration (PM1)

General description: Highly-intensive course for experienced team leaders and specialists from European countries, to update or refresh their managerial knowledge and skills, in planning, budgeting and communication. *Commencing date:* 9 January, 11 September (English); 12 June (French). *Duration:* 2 weeks. *Qualifications:* More than 3 years of professional experience. English, French. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* f. 5,750 (including accommodation and board).

Host institution: Management for Development Foundation (MDF)
P.O. Box 430
De Bosrand 28
6710 Bk Ede, Netherlands

Sector technology and management; electromechanical (1989); food processing (1990)

General description: General and production management technology of the sector concerned, including factory visits; technology; management; in-plant application; plan of action. *Commencing date:* 15 January 1990. *Duration:* 3 months. *Qualifications:* Degree in business administration, economics, engineering or a related subject from a recognized university; 3-5 years of creditable practical experience in a relevant field. English. *Last date for receipt of applications:* 15 October 1989. *Fee:* f. 15,500.

Host institution: Netherlands International Institute for Management (RVB)
P.O. Box 143
Mijnbouwplein 11
2600 AC Delft, Netherlands

Organization and management of industrial co-operatives

General description: Contemporary co-operative movement; principles of co-operative work; managing of industrial co-operatives; study visits and group discussions on industrial co-operatives; project preparation and appraisal. *Commencing date:* 18 September 1989, 1990. *Duration:* 6 weeks. *Qualifications:* University degree; or two years of experience in a related field. English. *Last date for receipt of applications:* June 1989, 1990. *Fee:* To be arranged.

Host institution: Central Union of Work Co-operatives
Zurawia 47
0068 Warsaw, Poland
in collaboration with
Centre for the Promotion of Industrial Co-operatives
Warsaw, Poland

Organization and management of industrial co-operatives

General description: Legal organization and structure; basic concepts of management; self-government and case-study. *Commencing date:* To be arranged. *Duration:* 1-6 months. *Qualifications:* Degree in economics, business administration or

equivalent; practical experience. English, French. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* To be arranged.

Host institution: Central Union of Work Co-operatives
Contact address:
Office for the Promotion of Progress in Science,
Technology and Development
Wspolna Str. 1/3
00-529 Warsaw, Poland

Curso para directivos

Descripción general: Perfeccionamiento para directivos (ejercicio). *Fecha de iniciación:* Octubre 1989. *Duración:* —. *Calificaciones:* Estar en ejercicio en un puesto de alta dirección. Español. *Fecha límite para la recepción de las solicitudes:* 1 septiembre 1989. *Derechos de inscripción:* Ptas 980.000

Institución huésped: Escuela de Organización
Gregorio del Amo 6
28040 Madrid, España

Applied international management

General description: General management programme for managers responsible for planning and control of industrial activities in developing countries. Particular emphasis: strategic issues, management accounting and control, production management, financial management, marketing, technology transfer, international project management, joint ventures, field-work in Swedish companies. *Commencing date:* 24 July 1989. *Duration:* 6 weeks. *Qualifications:* Professional qualifications; at least 10 years of experience in business or administration. English. *Last date for receipt of applications:* 14 April 1989. *Fee:* To be arranged.

Host institution: Swedish Institute of Management (IFL)
P.O. Box 6501
113 83 Stockholm, Sweden

International procurement

General description: Procurement management; materials and store management; economic elements in purchasing; contract clauses; quality and inspection. *Commencing date:* 1 March, 1 June, 1 September, 1 October, 1 November. *Duration:* 6 weeks. *Qualifications:* Middle-level managers. English. *Last date for receipt of applications:* —. *Fee:* \$US 8,000.

Host institution: AMU International
S. Bulltoftav. 21
212 22 Malmö, Sweden

Supervisory management training

General description: The supervisor and his organization; production aspects of supervision; the supervisor and personnel functions; communication skill and human relations. *Commencing date:* February, September. *Duration:* 6 weeks. *Qualifications:* Craftsmen or technicians. English. *Last date for receipt of applications:* —. *Fee:* \$US 7,000 (including full board).

Host institution: AMU International
S. Bulltoftav. 21
212 22 Malmö, Sweden

Young managers programme

General description: Development and human resource management; managing and changing the organizational culture; career performance and reward management and human resource planning and development. *Commencing date:* 1 March, 1 June, 1 September, 1 October, 1 November. *Duration:* 4 weeks. *Qualifications:* Middle-level managers. English. *Last date for receipt of applications:* —. *Fee:* \$US 6,000 (including full board).

Host institution: AMU International
S. Bulltoftav. 21
212 22 Malmö, Sweden

Management

General description: IMI organizes short and long courses: effectiveness of main and subsidiary boards, international programme for senior executives, international executive programmes, international advanced management programme, Master of Business Administration programme. It also runs 2-week programmes in the field of technology, finance, marketing and management development. *Commencing date:* Throughout the year. *Duration:* 3 days-9 months. *Qualifications:* All programmes are for middle to senior managers, executives and board members, working for an international organization. English. *Last date for receipt of applications:* 4 weeks before commencing date. *Fee:* SwF 5,000-SwF 34,000.

Host institution: International Management Institute (IMI)
4, chemin de Conches
1231 Conches-Geneva, Switzerland

Administrative management

General description: Review of office supervision; introducing change; problem-solving; supervising staff. *Commencing date:* To be arranged. *Duration:* 8 weeks. *Qualifications:* English. (Language improvement can be included if required). *Last date for receipt of applications:* —. *Fee:* Approximately £295 per week (including accommodation, board, teaching materials).

Host institution: Eaton Hall International
Nottinghamshire County Council
Retford, Nottinghamshire DN22 0PR, United Kingdom

Advanced logistics management

General description: The aim of the course is to give senior managers the skills and knowledge required to control effectively each of the logistics activities and to ensure that each activity is properly co-ordinated and integrated in the overall interests of organizational efficiency. The programme consists of the following 10 modules: 1. The nature of management and the role of the manager. 2. Corporate strategies and materials management. 3. The management of capital equipment procurement. 4. International purchasing and contracting. 5. Negotiation planning, strategies and techniques. 6. Inventory management and control systems. 7. The role of information technology. 8. Staff appraisal, development and training. 9. Physical distribution systems and management. 10. Contemporary issues in logistics and materials management. *Commencing date:* March. *Duration:* 12 weeks. *Qualifications:* Senior managers holding leading positions in the purchasing, supply or materials management fields. *Last date for receipt of applications:* 4 weeks before commencing date. *Fee:* £6,775 (fully residential).

Host institution: Crown Agents
Training Services
St. Nicholas House
Sutton, Surrey SM1 1EL, United Kingdom

CNAA postgraduate diploma in management studies

General description: Part I gives an intensive grounding in: accounting in business; behavioural aspects of management; managerial finance; managerial economics; quantitative management; management and the environment. Part II builds on part I but includes: marketing; business policy; management information systems; management model building; operations management. Three options are offered: manufacturing management; marketing planning and organization; materials management. In-company experience is arranged to include problem solving. *Commencing date:* September. *Duration:* Part I, 12 weeks; part II, 20 weeks. *Qualifications:* First degree or equivalent qualification; or a diploma in technology; or mature students with at least 4 years of experience in a post with professional or managerial responsibility. English. *Last date for receipt of applications:* September. *Fee:* £581 for participants from the United Kingdom (including admission fee); £3,745 for participants from overseas (including admission fee).

Host institution: Management Centre
North Staffordshire Polytechnic
College Road
Stoke-on-Trent, Staffordshire ST4 2DE, United Kingdom

Computerized materials and production management

General description: The role of production manager; organization of production control; materials management (MRP); objectives of computerization; micro-computers. *Commencing date:* Throughout the year. *Duration:* 4-20 weeks. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: Institute of Production Control
Westminster House
Wood Street
Stratford-on-Avon, Warwickshire CV37 6JF, United Kingdom

Construction site management

General description: The course is for those managers who hold or are about to take up positions in site management. It aims to help participants develop their managerial knowledge and skills, to improve their performance and to increase their awareness of the commercial implications of their managerial decisions. *Commencing date:* To be arranged. *Duration:* 3 weeks. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: Price Waterhouse
Urwick Management Centre
Baylis House
Stoke Poges Lane
Slough, Berkshire SL1 3PF, United Kingdom

Diploma course in production planning and control

General description: The corporate plan; shop loading; production scheduling; stock control; stores management; materials inspection; the important role of purchasing; interfacing between purchasing and other company functions; case-study of purchasing and expediting; man management; motivation; case-study of industrial relations. *Commencing date:* Throughout the year. *Duration:* 4-20 weeks. *Qualifica-*

tions: Professional qualifications. English. *Last date for receipt of applications:* —.
Fee: To be arranged.

Host institution: Institute of Production Control
Westminster House
Wood Street
Stratford-on-Avon, Warwickshire CV37 6JF, United Kingdom

Diploma course in telecommunication management studies

General description: General management; computers as a management tool; networks and systems; financial planning; marketing; management skills. *Commencing date:* September 1989, January 1990. *Duration:* 13 weeks. *Qualifications:* English. *Last date for receipt of applications:* May, November 1989. *Fee:* £92 per day (including full board and accommodation).

Host institution: BTIAL
Bailbrook College
39 London Road West
Bath BA1 7JD, United Kingdom

Effective supervision

General description: Principles and practice; communications and communication skills; industrial relations; economic aspects; technical aspects; human relations; personnel aspects; problem identification and analysis of problems; psychology of change; project work. *Commencing date:* To be arranged. *Duration:* 4 weeks. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* Approximately £295 per week (including accommodation, half-board, teaching materials).

Host institution: Eaton Hall International
Nottinghamshire County Council
Retford, Nottinghamshire DN22 0PR, United Kingdom

General management

General description: Becoming a better manager; management planning and control; human relationships; management and leadership; varieties of management; personnel functions; finance. *Commencing date:* To be arranged. *Duration:* 10-12 weeks. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* —. *Fee:* Approximately £295 per week plus VAT, if applicable. (Accommodation, half-board, teaching materials included.)

Host institution: Eaton Hall International
Nottinghamshire County Council
Retford, Nottinghamshire DN22 0PR, United Kingdom

General management for specialists

General description: Engineering and research; financial management and administration; computing; personnel; sales and marketing. *Commencing date:* 19 February, 23 April, 10 September, 19 November 1989. *Duration:* 3 weeks. *Qualifications:* Candidates with a well established specialist background and holding considerable responsibility within their specialist departments. English. *Last date for receipt of applications:* —. *Fee:* £3,485 (accommodation plus VAT, £864).

Host institution: Cranfield School of Management
Cranfield, Bedford MK43 0AL, United Kingdom

General management skills

General description: Communications; problem-solving; leadership; conflict management; method and work study; financial planning and information technology. *Commencing date:* October 1989, March 1990. *Duration:* 10-20 weeks. *Qualifications:* Some experience in management. English. *Last date for receipt of applications:* 4 weeks before commencing date. *Fee:* £300 per week.

Host institution: Teesside Transport Training Association
Hamilton House
Cargo Fleet Lane
Middlesbrough, Cleveland TS3 8DJ, United Kingdom

Human resource management

General description: Manpower policies and strategies; employment conditions; employee relations; recruitment and selection; records and systems; introduction of new technology; training and development. *Commencing date:* August 1989, 1990. *Duration:* 3 weeks. *Qualifications:* Personnel managers/advisers and line managers who have the development of human resources as part of their responsibilities. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* To be arranged.

Host institution: Industrial Training Service Ltd.
Overseas Division
43 Market Place
Wetherby, West Yorkshire LS22 4LN, United Kingdom

Management analysis and consultancy skills

General description: Eight-week core programme (essential management, analysts' skills, methods and techniques) followed by one of three 4-week options: (a) field assignments in essential skills; (b) job descriptions and job evaluation; (c) management consultancy. *Commencing date:* June. *Duration:* 12 weeks. *Qualifications:* Normally graduates. *Last date for receipt of applications:* 8 weeks before commencing date. *Fee:* Approximately £3,400.

Host institution: Royal Institute of Public Administration
Regent's College, Inner Circle, Regent's Park
London NW1 4NS, United Kingdom

Management and maintenance of agricultural plant and machinery

General description: The course is designed to enable participants to identify organizational and operational problems and to suggest practical and economic solutions. Participants will also be able to develop maintenance policies relating to their own sector, ensuring that plant and equipment is available and operating to agreed standards at an economic cost. *Commencing date:* January, September. *Duration:* 12 weeks. *Qualifications:* Middle-grade engineers who have responsibility for maintenance procedures within an agricultural environment. English. *Last date for receipt of applications:* 4 weeks before commencing date. *Fee:* £6,020 (fully residential).

Host institution: Crown Agents
Training Services
St. Nicholas House
Sutton, Surrey SM1 1EL, United Kingdom

Management and national development

General description: Changing requirements of public sector management; finance and management; people and management; management information; long-term plans and projects. *Commencing date:* September. *Duration:* 4 weeks. *Qualifications:* Permanent secretaries or their deputies. English. *Last date for receipt of applications:* 8 weeks before commencing date. *Fee:* Approximately £3,100 (including accommodation).

Host institution: Royal Institute of Public Administration
Regent's College, Inner Circle, Regent's Park
London NW1 4NS, United Kingdom

Management and supervisory development

General description: Intensive courses in human resource management; management of time; management accounts; effective management teams; developing appraisal and interviewing skills; presentation of techniques workshop; negotiation skills; work counselling skills; management of stress; interpersonal skills; the supervisor's course; leadership. *Commencing date:* Throughout the year. *Duration:* 1-6 weeks. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: Fielden House Productivity Centre Ltd.
Fielden House
Mersey Road
West Didsbury, Manchester M20 8QA, United Kingdom

Management development programme

General description: The programme offers a major personal development experience to successful managers who are currently undergoing, or who are on the threshold of, significant work transitions. It gives managers an opportunity to widen their business horizons, to understand management as a process of judgement and to improve their executive skills. *Commencing date:* 3 April, 18 September 1989. *Duration:* 6 weeks. *Qualifications:* Designed for experienced middle managers; from 30 to 45 years of age. English. *Last date for receipt of applications:* —. *Fee:* £6,000 (plus accommodation plus VAT, £1,500).

Host institution: Cranfield School of Management
Cranfield, Bedford MK43 0AL, United Kingdom

Management for engineers and scientists

General description: The programme is designed to enable engineers and scientists to make the transition from specialist to manager. Topics include: understanding organizations; determining the manager's role; solving problems; communication skills and systems; managing people; new technology; finance and managing change. *Commencing date:* July, October 1989, 1990. *Duration:* —. *Qualifications:* Graduate level in a relevant field. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* Approximately £1,050.

Host institution: Industrial Training Service Ltd.
Overseas Division
43 Marke Place
Wetherby, West Yorkshire LS22 4LN, United Kingdom

Management of construction plants

General description: Plant selection and utilization, plant department management, stores provision and control, planned maintenance management, workshop organization and control. *Commencing date:* 15 January, 9 April, 14 May, 10 September 1989, 14 January 1990. *Duration:* 10 weeks. *Qualifications:* A good level of basic education. English. *Last date for receipt of applications:* 6 weeks before commencing date. *Fee:* £12,147 (residential).

Host institution: Rayfield Consultancy & Training Ltd.
Melrose House
Broadlayings
Woolton Hill
Newbury, Berkshire RG15 9TT, United Kingdom

Materials supply management

General description: Management principles; materials handling and management; materials requirement planning; stock control; distribution management; appreciation of skills of buying and purchasing; report writing and presentation; finance in materials supply. *Commencing date:* 15 January, 9 April, 14 May, 10 September 1989, 14 January 1990. *Duration:* 11 weeks. *Qualifications:* A good level of basic education; some relevant experience. *Last date for receipt of applications:* 6 weeks before commencing date. *Fee:* £12,596 (residential).

Host institution: Rayfield Consultancy & Training Ltd.
Melrose House
Broadlayings
Woolton Hill
Newbury, Berkshire RG15 9TT, United Kingdom

Personnel management

General description: General management principles; staff recruitment, interviewing techniques and manpower development; management services, job analysis, evaluation and inspection; manpower budgeting; development of organizations, manpower planning; health and safety; industrial relations, negotiations; the law and industrial tribunals; project presentation. *Commencing date:* February, August. *Duration:* 12 weeks. *Qualifications:* Normally graduates. English. *Last date for receipt of applications:* 8 weeks before commencing date. *Fee:* Approximately £3,300.

Host institution: Royal Institute of Public Administration
Regent's College, Inner Circle, Regent's Park
London NW1 4NS, United Kingdom

Personnel management

General description: A programme for personnel staff who are in their first few years in a personnel management role, and who wish to learn about sound personnel management practice. Emphasis is placed on helping participants to transfer relevant parts of what they learn to their own work situation. *Commencing date:* 9 January, 11 September 1989. *Duration:* 12 weeks. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* To be arranged.

Host institution: Training Group Management Consultancy
Slough College of Higher Education
Wellington Street
Slough, Berkshire SL1 1YG, United Kingdom

Postgraduate diploma in materials management

General description: Essential management concepts and techniques; in-depth study of the activities and processes of production control; understanding the production management system. *Commencing date:* Throughout the year. *Duration:* 4-20 weeks. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: Institute of Production Control
Westminster House
Wood Street
Stratford-on-Avon, Warwickshire CV37 6JF, United Kingdom

Postgraduate diploma in production management and control

General description: Material flow systems theory; operational programming of manufacture; computerized systems in manufacturing; the management of materials procurement; dispatching (machine loading); computer programming and the use of materials management packages. *Commencing date:* Throughout the year. *Duration:* 4-20 weeks. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: Institute of Production Control
Westminster House
Wood Street
Stratford-on-Avon, Warwickshire CV37 6JF, United Kingdom

Procurement for development projects

General description: The objective of the course is: to examine in relation to aid agency funded projects, the donor agency requirements and relate these to the procedures existing in the recipient country; to equip purchasing management and project senior staff with the skills necessary to manage the procurement of the capital equipment, material and supplies required by a major project; to provide a basis for recognized and acceptable procedures to be followed in international competitive bidding, tender evaluation and award of contract to supply. *Commencing date:* March, October. *Duration:* 4 weeks. *Qualifications:* Officials concerned with the management of the procurement aspects of major projects. English. *Last date for receipt of applications:* 3 weeks before commencing date. *Fee:* £3,385 (fully residential).

Host institution: Crown Agents
Training Services
St. Nicholas House
Sutton, Surrey SM1 1EL, United Kingdom

Production management

General description: The objective of the course is to develop a detailed understanding of current production management techniques, the more effective use of people and the range of intervention techniques used by technical advisers to management. In addition to formal training there are visits and project attachments to a wide range of industrial, commercial and service organizations. *Commencing date:* September 1989, 1990. *Duration:* 16 weeks. *Qualifications:* Policy-makers within national training organizations and directors and senior managers from public and private-sector organizations responsible for setting up a vocational training facility.

English. *Last date for receipt of applications:* 4 weeks before commencing date. *Fee:* To be arranged.

Host institution: Industrial Training Service Ltd.
Overseas Division
43 Market Place
Wetherby, West Yorkshire LS22 4LN, United Kingdom

Production management and control

General description: The role of the production manager; work scheduling; sales forecasting; computer software packages. *Commencing date:* Throughout the year. *Duration:* 4-20 weeks. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: Institute of Production Control
Westminster House
Wood Street
Stratford-on-Avon, Warwickshire CV37 6JF, United Kingdom

Public sector administration

General description: Management and government; principles of management; personnel administration; staff training; development and management; decision-making techniques; planning for achievement; special problems of public administration; field assignment. *Commencing date:* May. *Duration:* 12 weeks. *Qualifications:* Graduates. English. *Last date for receipt of applications:* 8 weeks before commencing date. *Fee:* Approximately £3,300.

Host institution: Royal Institute of Public Administration
Regent's College, Inner Circle, Regent's Park
London NW1 4NS, United Kingdom

Purchasing management

General description: Management practice; purchasing skills and management; finance and accounting; measuring and improving purchasing performance; practical negotiating and expediting; developing the "buyer"; computers in purchasing. *Commencing date:* 15 January, 9 April, 14 May, 10 September 1989, 14 January 1990. *Duration:* 9 weeks. *Qualifications:* A good level of basic education; some relevant experience. English. *Last date for receipt of applications:* 6 weeks before commencing date. *Fee:* £10,868 (residential).

Host institution: Rayfield Consultancy & Training Ltd.
Melrose House
Broadlayings
Woolton Hill
Newbury, Berkshire RG15 9TT, United Kingdom

Senior managers programme

General description: The objective of the course is to: develop the understanding of the interfunctional nature of management; update the current management thinking and practice; provide opportunities to develop further leadership skills; sharpen interpersonal skills and tailor them to senior management responsibilities. *Commencing date:* 29 January, 7 May, 15 October 1989. *Duration:* —. *Qualifications:*

Candidates holding managerial posts at a senior level in industry, commerce or public services; from 35 to 50 years of age. *Last date for receipt of applications:* —. *Fee:* £3,995 (plus accommodation plus VAT, £864).

Host institution: Cranfield School of Management
Cranfield, Bedford MK43 0AL, United Kingdom

Site management

General description: Construction project management; the assessment, monitoring and control of subcontractors; industry and management; communication and the construction industry; site surveying and levelling; contractual procedures; planning and organization; productivity techniques; management planning techniques. *Commencing date:* July, September. *Duration:* 12 weeks. *Qualifications:* Middle or senior site or construction managers and civil engineers. English. *Last date for receipt of applications:* 4 weeks before commencing date. *Fee:* £6,020 (fully residential).

Host institution: Crown Agents
Training Services
St. Nicholas House
Sutton, Surrey SM1 1EL, United Kingdom

Stores management

General description: Management principles; finance and costing in stores activities; stores management principles and practices; safety in stores operations; analysing and improving performance; stock control; computers in stores operation; report writing and presentation. *Commencing date:* 15 January, 9 April, 14 May, 10 September 1989, 14 January 1990. *Duration:* 11 weeks. *Qualifications:* A good level of basic education; some relevant experience. English. *Last date for receipt of applications:* 6 weeks before commencing date. *Fee:* £12,596 (residential).

Host institution: Rayfield Consultancy & Training Ltd.
Melrose House
Broadlayings
Woolton Hill
Newbury, Berkshire RG15 9TT, United Kingdom

Supervisory management

General description: Financial control; operations control; organizational control; instructional techniques. *Commencing date:* To be arranged. *Duration:* 12 weeks. *Qualifications:* Some management experience; over 25. English. *Last date for receipt of applications:* To be arranged. *Fee:* To be arranged.

Host institution: Wakefield District College
Whitwood Centre
Four Lane Ends
Castleford, West Yorkshire WF10 5NF, United Kingdom

Supervisory management appreciation

General description: Techniques designed to assist the newly promoted supervisor in his role. *Commencing date:* To be arranged. *Duration:* 4 weeks. *Qualifications:* Some supervisory experience; over 21 years of age. *Last date for receipt of applications:* To be arranged. *Fee:* To be arranged.

Host institution: Wakefield District College
Whitwood Centre
Four Lane Ends
Castleford, West Yorkshire WF10 5NF, United Kingdom

Supply and materials management

General description: The aim of this course is to enable middle and senior management to develop existing supply procedures, plan new supply systems and integrate existing but diversified supply activities. The course programme includes: supply and materials management, contracting and purchasing, distribution, storage methods, financial aspects of supply management, stock control and inventory management, storage planning and operation. *Commencing date:* February, June, September. *Duration:* 12 weeks. *Qualifications:* Middle and senior managers. English. *Last date for receipt of applications:* 4 weeks before commencing date. *Fee:* £6,020 (fully residential).

Host institution: Crown Agents
Training Services
St. Nicholas House
Sutton, Surrey SM1 1EL, United Kingdom

Workshop organization and administration management

General description: Design and layout; manpower planning, provision and training; equipping; safety; specialist repair areas; maintenance routines and programmes; standards of performance; analysis and improvement; documentation systems; scheduling and controlling. *Commencing date:* 12 February, 21 May, 17 September, 12 November 1989, 21 January, 4 March 1990. *Duration:* 5 weeks. *Qualifications:* A good level of basic education; some relevant experience. *Last date for receipt of applications:* 6 weeks before commencing date. *Fee:* £4,830 (residential).

Host institution: Rayfield Consultancy & Training Ltd.
Melrose House
Broadlayings
Wootton Hill
Newbury, Berkshire RG15 9TT, United Kingdom

Young managers programme

General description: The programme provides early career training and personal development in an intensive course aimed at young, emerging managers. *Commencing date:* 26 February, 21 May, 24 September 1989. *Duration:* 3-4 weeks. *Qualifications:* Junior managers with potential for assuming greater responsibilities within their organizations; between 28 and 33 years of age. English. *Last date for receipt of applications:* —. *Fee:* £2,700 (plus accommodation plus VAT, £864).

Host institution: Cranfield School of Management
Cranfield, Bedford MK43 0AL, United Kingdom

American management system

General description: Five-month course; 2 possible majors, communications or management; internship in an American college is possible (6-8 weeks). *Commencing date:* April, September. *Duration:* 5 months. *Qualifications:* College degree. English. *Last date for receipt of applications:* 1 March, 1 August. *Fee:* \$US 6,380 (includes living expenses).

Host institution: Japan-America Institute of Management Science (JAIMS)
6660 Hawaii Kai Drive
Honolulu, HI 96825, United States of America

Human resource development

General description: Organization and the role of human resource development; human resource development process; establishing the human resource system; micro-computers and human resource development; managing the system; developing the specific programme. *Commencing date:* 5 June 1989. *Duration:* 6 weeks. *Qualifications:* Bachelor's degree or equivalent. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* \$US 3,500.

Host institution: International Institute for Development
Graduate School, USDA
600 Maryland Avenue, S.W., Suite 134
Washington, DC 20024, United States of America

Japanese management system

General description: Nine-month programme; intensive Japanese language training and management; internship in a Japanese corporation. *Commencing date:* September. *Duration:* 10 months. *Qualifications:* College degree. English. *Last date for receipt of applications:* 1 August. *Fee:* \$US 12,205 (including living expenses).

Host institution: Japan-America Institute of Management Science (JAIMS)
6660 Hawaii Kai Drive
Honolulu, HI 96825, United States of America

Leadership and management development

General description: Nature of the management process; basic supervisory skills; communication; decision-making; planning; delegation; leadership; time management; personnel administration; evaluation. *Commencing date:* 3 January, 14 August 1989. *Duration:* 3 weeks. *Qualifications:* Bachelor's degree or equivalent. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* \$US 1,500.

Host institution: International Institute for Development
Graduate School, USDA
600 Maryland Avenue, S.W., Suite 134
Washington, DC 20024, United States of America

Management analyst

General description: Systems analysis; report writing; conducting meetings; position description development; records management; forms design and analysis; making presentations; systems analysis; conducting interviews; introducing organizational change; motivation; feedback; communication. *Commencing date:* 30 January 1989. *Duration:* 12 weeks. *Qualifications:* Bachelor's degree or equivalent. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* \$US 7,500.

Host institution: International Institute for Development
Graduate School, USDA
600 Maryland Avenue, S.W., Suite 134
Washington, DC 20024, United States of America

Management economics

General description: Supply and demand; production; cost; market structures; project design; money and banking pricing; elasticity; marginal and regression analysis.

Commencing date: 27 March, 5 June 1989. *Duration:* 3 weeks. *Qualifications:* Bachelor's degree or equivalent. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* \$US 1,500.

Host institution: International Institute for Development
Graduate School, USDA
600 Maryland Avenue, S.W., Suite 134
Washington, DC 20024, United States of America

Management roles for women in development

General description: Participants will develop knowledge and skills to: use executive skills in planning, decision-making, and interpersonal communication; anticipate, analyse, and manage special problems that may occur when women are leaders in predominantly male organizations; articulate and provide leadership to help women assume a greater role in development; demonstrate more effective influence leadership skills; be creative and objective in their leadership positions, co-ordinate better the inclusion of other women in organization programmes and projects; and implement changes within their organizations, both structurally and procedurally. *Commencing date:* 1 May 1989. *Duration:* 4 weeks. *Qualifications:* Bachelor's degree or equivalent. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* \$US 2,500.

Host institution: International Institute for Development
Graduate School, USDA
600 Maryland Avenue, S.W., Suite 134
Washington, DC 20024, United States of America

Marketing and export promotion/ Marketing et promotion des exportations/ Comercialización y promoción de las exportaciones

Marketing and export promotion

General description: A programme providing practical approaches to many of the situations and problems facing the marketer and examining the vital supporting role of export promotion and assistance in the public sector. *Commencing date:* 27 July 1989. *Duration:* 5 weeks. *Qualifications:* Public sector officials and businessmen. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* \$US 450 per week.

Organizer: PRODEC
Latuankatu 4
00100 Helsinki, Finland

Venue: Riyadh, Saudi Arabia

International marketing

General description: International marketing for Western Europe for company executives. *Commencing date:* Autumn. *Duration:* 3 weeks. *Qualifications:* University degree; company executives. English. *Last date for receipt of applications:* To be arranged. *Fee:* —.

Host institution: Netherlands Centre for the Promotion of Imports from Developing Countries (CBI)
P.O. Box 30009
3001 DA Rotterdam, Netherlands

International marketing and export for small- and medium-size firms

General description: Principles and basic concepts; strategic decisions in international marketing; international marketing research; international product decisions; international distribution decisions; international pricing decisions; international communications; organization for international marketing, successful exporting; case-studies and work visits. *Commencing date:* 1 May, 30 October 1989, 30 April, 29 October 1990. *Duration:* 2 months. *Qualifications:* Bachelor's degree or equivalent; experience in a relevant field. English. *Last date for receipt of applications:* 3 months before commencing date. *Fee:* f. 8,500.

Host institution: International Centre for Quality and Management Sciences
P.O. Box 2082
3000 CB Rotterdam, Netherlands

Marketing and export trade development

General description: The development of the marketing function, with special emphasis on export trade development. The training provides for a series of personalized introductions on market analysis, international trade relations, quality assurance, marketing, pricing and costing. The programme will further include study of selected literature and market documentations. An experienced CBO associate will provide guidance as tutor and programme co-ordinator. *Commencing date:* To be arranged. *Duration:* 8-13 weeks. *Qualifications:* University graduates in engineering, economics or business administration, preferably with experience in industry. English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: Centre for Management and Industrial Development (CBO)
Exchange Building
Coolsingel/Meent
P.O. Box 30042
3001 DA Rotterdam, Netherlands

Marketing management and physical distribution

General description: Marketing concept; marketing management; marketing research; finance for marketing; physical distribution; practical assignments. *Commencing date:* 15 January 1990. *Duration:* 3 months. *Qualifications:* Degree in business administration, economics, engineering or a related subject from a recognized university; 3-5 years of creditable practical experience in a related field. English. *Last date for receipt of applications:* 15 October 1989. *Fee:* f. 15,500.

Host institution: Netherlands International Institute for Management (RVB)
P.O. Box 143
Mijnbouwplein 11
2600 AC Delft, Netherlands

Summer school in international business

General description: The objective of the programme is to bring students in direct contact with the European business environment. *Commencing date:* June 1989. *Duration:* 6 weeks. *Qualifications:* Business, economics, foreign service or liberal arts students. English. *Last date for receipt of applications:* 15 April 1989. *Fee:* f. 4,365 (including accommodation and meals).

Host institution: Nijenrode
The Netherlands School of Business
International Affairs
Straatweg 25
3621 BG Breukelen, Netherlands

Trade promotion

General description: Techniques of trade promotion for senior officials of trade promotion offices. *Commencing date:* Spring. *Duration:* 3 weeks. *Qualifications:* University degree; 5 years of practical experience. English. *Last date for receipt of applications:* To be arranged. *Fee:* —.

Host institution: Netherlands Centre for the Promotion of Imports from Developing Countries (CBI)
P.O. Box 30009
3001 DA Rotterdam, Netherlands

Marketing management

General description: The objective of the course is to improve the participants' skills necessary for: effective company adaption to customer and competitive requirements; customer and competitor analysis; obtaining and sustaining a competitive advantage; changing the organization to implement a strategy market orientation. *Commencing date:* 1 March, 1 June, 1 September, 1 October, 1 November. *Duration:* 4 weeks. *Qualifications:* Middle-level managers. English. *Last date for receipt of applications:* —. *Fee:* \$US 6,000 (including full board).

Host institution: AMU International
S. Bulltoftav. 21
212 22 Malmö, Sweden

Marketing

General description: The role of marketing as a tool of management; the total marketing mix; selection of appropriate elements of the mix market research, desk and field; preparation of long- and short-term marketing plans, budgeting; targeting, advertising techniques; sales management and administration, marketing aids and customer contact; public relations. *Commencing date:* To be arranged. *Duration:* 3 months. *Qualifications:* Relevant experience. Good English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* To be arranged.

Host institution: Chattaway (UK) Training Services
Pool Chambers
26 Dam Street
Lichfield, Staffordshire WS13 6AA, United Kingdom

Marketing management

General description: The marketing concept; marketing mix; product development; pricing; promotion; distribution; corporate visitation programme; market research; forecasting; developing and executing marketing strategy. *Commencing date:* 18 June 1989, 17 June 1990. *Duration:* 6 weeks. *Qualifications:* Experience at upper levels of management; at least 30 years of age. English. *Last date for receipt of applications:* —. *Fee:* \$US 5,495 (plus room and board, \$US 4,395).

Host institution: International Marketing Institute (IMI)
314 Hammond Street
Chestnut Hill, MA, United States of America

**Quality control and standardization/Contrôle de la qualité et normalisation/
Control de calidad y normalización**

Contrôle et assurance de la qualité

Description générale : Métrologie; essais mécaniques des matériaux ferreux et non ferreux; métallographie; chimie industrielle. *Début du cours* : Toute l'année sauf en juillet et août. *Durée* : —. *Qualifications* : Qualifications professionnelles. Français. *Dernier délai pour la soumission des candidatures* : —. *Droit d'inscription* : A arranger.

Organisme hôte : Centre de coopération et de recherche pédagogique et technique (CREPT)
Université du travail Paul Pastur
1, boulevard Roullier
6000 Charleroi, Belgique

Normalisation

Description générale : Examen de la loi de base en matière de normalisation ainsi que des règles pour l'élaboration des normes; collaboration avec les institutions spécialisées, notamment le Comité électronique belge; visite du laboratoire qui octroie la marque CEBEC; organisation des services techniques; création et fonctionnement des commissions, missions des comités de coordination technique, travaux internationaux (ISO, CEN, CENELEC, CECA), marque de conformité. Visite au Comité européen de normalisation; visite des services d'exécution de l'IBN; questions d'intérêt général : construction, feu, sécurité, éclairage, fabrications métalliques, soudure, énergie nucléaire, gaz naturel, transport, papiers et cartons; centre d'information de l'IBN. *Début du cours* : A arranger. *Durée* : —. *Qualifications* : Niveau universitaire. Français. *Dernier délai pour la soumission des candidatures* : —. *Droit d'inscription* : A arranger.

Organisme hôte : Institut belge de normalisation (IBN)
29, avenue de la Brabançonne
1040 Bruxelles, Belgique

Qualité et fiabilité

Description générale : Donner une solide formation à la "qualité" à des ingénieurs pour les spécialiser, grâce aux techniques informatiques les plus récentes. *Début du cours* : Février 1989, février 1990. *Durée* : 3 mois. *Qualifications* : Ingénieur et technicien supérieur. *Dernier délai pour la soumission des candidatures* : 2 mois avant la date de début du cours. *Droit d'inscription* : FF 20 500.

Organisme hôte : Institut national des sciences appliquées de Lyon (INSA)
Bâtiment 601
20, avenue Albert-Einstein
69621 Villeurbanne, France

Total quality control

General description: The objective of the course is to enable participants to understand the principles and practices of total quality control, and how this expanded concept of quality can be built into the total management system to attain a higher quality of working life and improved motivation for reaching organizational goals. *Commencing date*: To be arranged. *Duration*: 4 weeks. *Qualifications*: Quality control managers/engineers in industry and technical consultants of national

productivity organizations or similar institutions of APO member countries. English. *Last date for receipt of applications:* 3 months before commencing date. *Fee:* \$US 100 for participants from profit-making organizations.

Organizer: Asian Productivity Organization (APO)
4-14 Akasaka 8-chome
Minato-ku
Tokyo 107, Japan

Venue: Japan

Quality systems: installation, auditing and improvement

General description: Quality control functions; types of quality control systems; organization for quality assurance; introducing a quality control system; setting up for inspection; sampling plans and their use; analysing a quality system; quality auditing; quality motivation and improvement programmes and quality requirements for export to developed countries. *Commencing date:* 21 July 1989, 8 January, 23 July 1990. *Duration:* 2 months. *Qualifications:* Bachelor's degree or equivalent; experience in quality control or a related field. English. *Last date for receipt of applications:* 3 months before commencing date. *Fee:* f. 8,500.

Host institution: International Centre for Quality and Management Sciences
P.O. Box 2082
3000 CB Rotterdam, Netherlands

Statistical quality control: a computer-oriented approach

General description: The nature and impact of the computer; flow diagrams for statistical analysis; probability and probability distributions; sampling theory and techniques; tests of significance; control charts; experimental design and regression and correlation analysis. *Commencing date:* 4 September 1989, 19 February, 3 September 1990. *Duration:* 2 months. *Qualifications:* Bachelor's degree or equivalent; experience in quality control or a related field. English. *Last date for receipt of applications:* 3 months before commencing date. *Fee:* f. 8,500.

Host institution: International Centre for Quality and Management Sciences
P.O. Box 2082
3000 CB Rotterdam, Netherlands

Total quality control

General description: Basic concepts; quality specifications; organization; policy, planning and motivation; economics of quality; customer service; inspection and sampling, process capability; auditing; reliability and quality improvement; statistical tools; standardization. Practical part is conducted in factories, offices or institutes concerned with quality control. General part includes studying topics of special interest and visits to industrial plants. *Commencing date:* 24 July 1989, 8 January, 23 July 1990. *Duration:* 3 months. *Qualifications:* Bachelor's degree or equivalent; experience in quality control or a related field. English. *Last date for receipt of applications:* 3 months before commencing date. *Fee:* f. 13,500.

Host institution: International Centre for Quality and Management Sciences
P.O. Box 2082
3000 CB Rotterdam, Netherlands

Ultrasonic non-destructive material testing

General description: Aims of non-destructive testing; physical principles; methods of ultrasonic testing; test equipment with its function and operation; detection and

determination of defects and damages in materials and ready-made components; inspection of welding joints; laboratory practice and field-work experience. *Commencing date:* To be arranged. *Duration:* 1 month. *Qualifications:* Engineers and technicians in related fields. English. *Last date for receipt of applications:* 2 months before commencing date. *Fee:* To be arranged.

Host institution: Association of Polish Mechanical Engineers and Technicians (SIMP)
Staff Upgrading Centre
Mickiewicza 9
01-517 Warsaw, Poland

Applied quality control, inspection and metrology

General description: Theoretical and practical areas of quality control, inspection and dimensional metrology. *Commencing date:* February, September. *Duration:* 6 weeks. *Qualifications:* Craftsmen or technicians. English. *Last date for receipt of applications:* —. *Fee:* \$US 7,400 (including full board).

Host institution: AMU International
S. Bulltofav. 21
212 22 Malmö, Sweden

Standardization and quality control

General description: Aspects of preparing and implementing standards and quality control principles at international, national and company levels. *Commencing date:* September 1989. *Duration:* 1 month. *Qualifications:* Experience in a related field. English. *Last date for receipt of applications:* June 1989. *Fee:* To be arranged.

Host institution: Swedish Standards Institution (SIS-SISSAB)
P.O. Box 3295
103 66 Stockholm, Sweden

Basic laboratory skills for food quality control

General description: Microbiological and chemical testing training with emphasis on clean environments in retailing of foods and agricultural products; food quality control training in industrial and commercial premises; industrial attachments in a wide range of food industries. *Commencing date:* To be arranged. *Duration:* —. *Qualifications:* Professional qualifications or experience. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* To be arranged.

Host institution: Food Laboratories International
Kingsheath House
Cribbs Causeway
Bristol BS10 7TU, United Kingdom

Computer aided non-destructive testing

General description: A high technology course designed to bring to the attention of non-destructive testing personnel state-of-the-art developments in computer applications of non-destructive testing. Particular emphasis will be placed on the ultrasonic aspects of critical flaw sizing. *Commencing date:* To be arranged. *Duration:* —. *Qualifications:* Higher certificate, diploma or degree; experience in non-destructive testing. *Last date for receipt of applications:* 1 September 1989, 1990. *Fee:* £250.

Host institution: Scottish School of Non-Destructive Testing
Paisley College
High Street
Paisley PA1 2BE, Scotland, United Kingdom

Non-destructive testing

General description: Theoretical and practical training in ultrasonics, radiographic, penetrant and magnetic particle testing methods and welding inspection. (All subjects or any individual subjects may be taken.) *Commencing date:* To be arranged. *Duration:* 2-12 months. *Qualifications:* GCE "O" level in mathematics and physics or general science or equivalent. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* £200 per man/week of training.

Host institution: Inspectorate
P.O. Box 45
Portrack Lane
Stockton-on-Tees, Cleveland TS18 2PP, United Kingdom

Pipemill inspection

General description: Specifications, codes and standards; visual and dimensional inspection; welding technology; basic metallurgy; heat treatment; welding codes; welding defects; destructive and non-destructive testing; quality assurance and evaluation; quality control. *Commencing date:* To be arranged. *Duration:* —. *Qualifications:* GCE "O" level in mathematics and physics or general science or equivalent. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* £200 per week.

Host institution: Inspectorate
P.O. Box 45
Portrack Lane
Stockton-on-Tees, Cleveland TS18 2PP, United Kingdom

Quality assurance, control and inspection

General description: The objective of the course is: to examine how quality control policies and systems are applied to public sector organizations buying in international markets; to develop the idea of quality assurance and reliability in organizations manufacturing and producing for markets at home and overseas; to promote the establishment and maintenance of standards for products and services that meet the requirements of organizations involved in supplying, purchasing or receiving; to equip delegates with the skills to assess, select, manage and carry out quality control, quality assurance and inspection policies and procedures suitable for their home situation. *Commencing date:* April. *Duration:* 12 weeks. *Qualifications:* Middle- to senior-level managers who have the responsibility for checking appropriateness of specifications, tender evaluations, matching orders to specifications/tenders, matching of goods to order. English. *Last date for receipt of applications:* 4 weeks before commencing date. *Fee:* £6,020 (fully residential).

Host institution: Crown Agents
Training Services
St. Nicholas House
Sutton, Surrey SM1 1EL, United Kingdom

Quality control procedures

General description: Theoretical and practical training in quality assurance, quality evaluation and quality control statutory inspection, non-destructive testing and welding inspection. *Commencing date:* To be arranged. *Duration:* 2-12 months. *Qualifications:* GCE "O" level in mathematics and physics or general science or

equivalent. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* £200 per man/week of training.

Host institution: Inspectorate
P.O. Box 45
Portrack Lane
Stockton-on-Tees, Cleveland TS18 2PP, United Kingdom

Quality engineering

General description: A diploma course aiming at providing the participant with the management, technical knowledge and range of skills to understand, identify, analyse, evaluate and assess the criteria that influence quality decisions required at all stages of the product life cycle. *Commencing date:* 2 October 1989, 1 October 1990. *Duration:* 9 months. *Qualifications:* Degree in science or engineering. *Last date for receipt of applications:* 1 September 1989, 1990. *Fee:* £3,500.

Host institution: Scottish School of Non-Destructive Testing
Paisley College
High Street
Paisley PA1 2BE, Scotland, United Kingdom

Quality practice

General description: The course is designed to acquaint engineers, managers and supervisors with current quality practice requirements as defined in British Standard BS5750. The course combines the management of quality with the utilization of information technology; the interpretation and use of international standards and the criteria for acceptance levels. *Commencing date:* May 1989, May 1990. *Duration:* —. *Qualifications:* Higher certificate or diploma; experience. *Last date for receipt of applications:* 1 May 1989, 6 May 1990. *Fee:* £800.

Host institution: Scottish School of Non-Destructive Testing
Paisley College
High Street
Paisley PA1 2BE, Scotland, United Kingdom

Small-scale industries and entrepreneurship/Petites industries et entrepreneurs/ Pequeñas industrias y empresarios

Entrepreneur development training

General description: The training course comprises both classroom sessions covering essential business concepts for effective management as well as practical exposure through industrial attachments at relevant firms, on-site observation, visits to trade fairs and exhibitions, business meetings with relevant business collaborators and discussions with trade associations and chambers of commerce. *Commencing date:* September. *Duration:* 8 weeks. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* May. *Fee:* To be arranged.

Host institution: International Training and Contact (ITC)
Velodroomstraat 68
2600 Antwerp, Belgium

Formation à l'aide aux petites et moyennes entreprises

Description générale : Evaluation d'un projet de création; formation du candidat entrepreneur; mise à disposition des infrastructures nécessaires; recherche du ou des financements possibles; déploiement ou rédéploiement économique par la création d'un tissu de petites et moyennes entreprises; relations petites et moyennes entreprises-écoles. **Début du cours :** Toute l'année sauf en juillet et août. **Durée :** —. **Qualifications :** Qualifications professionnelles. Français. **Dernier délai pour la soumission des candidatures :** —. **Droit d'inscription :** A arranger.

Organisme hôte : Centre de coopération et de recherche pédagogique et technique (CREPT)
Université du travail Paul Pastur
1, boulevard Roullier
6000 Charleroi, Belgique

Development of small-scale rural manufacturers

General description: Production technologies; appropriate and/or advanced technologies depending on the client's particular needs; quality control; drawing and design; cost accounting and product pricing; marketing; management. **Commencing date:** Early April. **Duration:** 6 months. **Qualifications:** Bachelor of Science; or workshop manager; or several years of experience. **Last date for receipt of applications:** 31 January. **Fee:** DM 14,196 (including study materials, protective clothing, study tours).

Host institution: Deutsche Lehranstalten für Agrartechnik (DEULA)
P.O. Box 120134
6100 Darmstadt, Federal Republic of Germany

Credit appraisal for small- and medium-size industries

General description: Roles of financial institutions serving small- and medium-size industries; feasibility of industrial projects; types of financing for small and medium industries; credit analysis and appraisal methods; case-studies. **Commencing date:** To be arranged. **Duration:** 3 weeks. **Qualifications:** Officers of development banks, financing institutions, small industries, advisory agencies and other similar institutions of APO member countries. English. **Last date for receipt of applications:** 3 months before commencing date. **Fee:** \$US 100 per participant from profit-making organizations.

Organizer: Asian Productivity Organization
4-14 Akasaka 8-chome
Minato-ku
Tokyo 107, Japan

Venue: Japan

Small entrepreneurship promotion and industrial assistance

General description: Small-scale industry; small-scale industry management; consultancy; training; technological assistance; entrepreneurship development; organization of institutional support systems. **Commencing date:** 14 August 1989, 13 August 1990. **Duration:** 3 months. **Qualifications:** Degree in business administration, economics, engineering or a related subject from a recognized university; 3-5 years of creditable practical experience in a relevant field. English. **Last date for receipt of applications:** 15 May 1989, 15 May 1990. **Fee:** f. 15,500.

Host institution: Netherlands International Institute for Management (RVB)
P.O. Box 143
Mijnbouwplein 11
2600 AC Delft, Netherlands

Management and organization of production in small- and medium-scale enterprises

General description: Principles of management, marketing, planning and organization of production process; quality control; elaboration of technical documentation; designing and technology of production. *Commencing date:* To be arranged. *Duration:* 1-6 months. *Qualifications:* Degree in economics, business administration or equivalent; experience. English or French. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* To be arranged.

Organizer: Central Union of Work Co-operatives
Contact address:
Office for the Promotion of Progress in Science, Technology and
Development
Wspolna 1/3
00-529 Warsaw, Poland

New and small enterprise promotion in developing countries

General description: The objective of the course is to enable participants responsible for small business development to design and implement integrated assistance programmes, including finance, training, the provision of infrastructure and the framing and monitoring of overall government policy. *Commencing date:* 16 July 1989, July 1990. *Duration:* 9 weeks. *Qualifications:* At least one year of involvement in some aspect of small business development and intention to continue being involved. English. *Last date for receipt of applications:* May 1989, 1990. *Fee:* 1989, £5,300 (including accommodation and meals); 1990, £5,550 (including accommodation and meals).

Host institution: Enterprise Development Centre
Cranfield School of Management
Cranfield, Bedford MK43 0AL, United Kingdom

Trainer development/Formation de formateurs/ Perfeccionamiento de profesionales de capacitación

Perfectionnement de professeurs de l'enseignement technique

Description générale : Cours de perfectionnement destinés aux professeurs de l'enseignement technique sur les matières suivantes : définition des besoins de l'industrie; sélection et orientation des étudiants; définition des programmes; relations usine-école; psychologie des étudiants adultes; choix et utilisation des méthodes pédagogiques de formation des jeunes adultes. *Début du cours :* Toute l'année sauf en juillet et août. *Durée :* 4 à 8 semaines (éventuellement quelques mois). *Qualifications :* Qualifications professionnelles. Français, anglais. *Dernier délai pour la soumission des candidatures :* —. *Droit d'inscription :* A arranger.

Organisme hôte : Institut belge de formation, d'assistance technique et de transfert de technologie (IBF)
63, rue Montoyer
1040 Bruxelles, Belgique

Sélection et formation d'instructeurs

Description générale : Préparation des techniciens au rôle d'instructeurs en leur enseignant les connaissances et techniques didactiques voulues afin qu'ils puissent assurer à leur tour cette formation à d'autres techniciens de la même branche, et ce, valablement et de la manière la plus efficace. *Début du cours :* Toute l'année sauf de

juillet au 15 septembre. *Durée* : —. *Qualifications* : Technicien apte à remplir le rôle de formateur et ayant au moins le niveau de contremaître dans son secteur d'activité ou sa profession et possédant une expérience professionnelle ou plusieurs années dans sa spécialisation. Français, anglais. *Dernier délai pour la soumission des candidatures* : 3 mois avant la date de début du cours. *Droit d'inscription* : A arranger.

Organisme hôte : International Executives Benelux SA "INTEX"
5, rue de la Science
1040 Bruxelles, Belgique

Audio-visual training aids

General description: Human perception and learning; communication skills; stating teaching objectives; production of models; production of handouts; production of transparencies; production of slide-series; production of film/video strip; operational skills and maintenance of technical equipment. *Commencing date:* 1 August. *Duration:* 8 weeks. *Qualifications:* Bachelor of Science; or several years of experience. English, French. *Last date for receipt of applications:* 28 February. *Fee:* DM 7,587 (including study materials, protective clothing, study tours).

Host institution: Deutsche Lehranstalten für Agrartechnik (DEULA)
P.O. Box 120134
6100 Darmstadt, Federal Republic of Germany

Management of industrial and vocational training

General description: Sound understanding of training and its role in the development of an economy; detailed knowledge of training at management, supervisory, craft and operative level; manpower planning; analytical consultancy and presentation skills; knowledge of training methods and equipment. *Commencing date:* August. *Duration:* 8 weeks. *Qualifications:* Trainers in public, industrial and commercial sectors, senior personnel from labour, education, industry and manpower ministries. *Last date for receipt of applications:* —. *Fee:* £1r 6,900 (including meals and accommodation).

Host institution: FAS
The Training & Employment Authority
27-33 Upper Baggot Street
Dublin 4, Ireland

Training of trainers in developing countries

General description: Instructional techniques; job analysis; programme planning; supervision; on-the-job training. *Commencing date:* Throughout the year. *Duration:* 2 weeks-1 year. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: FAS
The Training & Employment Authority
27-33 Upper Baggot Street
Dublin 4, Ireland

Training of trainers

General description: Methodology; training techniques; use of visual aids and evaluation of training activity. *Commencing date:* To be arranged. *Duration:* 1-6 months. *Qualifications:* Degree in economics, business administration or in a relevant field.

English, French. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* To be arranged.

Organizer: Central Union of Work Co-operatives
Contact address:
Office for the Promotion of Progress in Science, Technology and
Development
Wspolna 1/3
00-529 Warsaw, Poland

Planning of vocational and technical education

General description: Theory of education; curriculum development; instructor training theory; statistics; administrative planning; demography; economy of education; school architecture; equipment and recurrent costs; school administration; evaluation theory; preparation of individual study themes; practice in different institutions; strategies for development; allocation of resources; school mapping; social anthropology; discussions of individual study themes. *Commencing date:* March. *Duration:* 8 weeks. *Qualifications:* Directors, assistant directors, planning specialists. English. *Last date for receipt of applications:* —. *Fee:* \$US 10,400 (including full board).

Host institution: AMU International
S. Bulltoftav. 21
212 22 Malmö, Sweden

Developing and managing the training function

General description: Management of vocational training centres and project attachments to skills centres; preparation of study visits. *Commencing date:* September 1989. *Duration:* —. *Qualifications:* Policy-makers within national training organizations and directors, senior managers from public and private-sector organizations responsible for setting up a vocational training facility. English. *Last date for receipt of applications:* 6 weeks before commencing date. *Fee:* £4,550.

Host institution: Industrial Training Service Ltd.
Overseas Division
43 Market Place
Wetherby, West Yorkshire LS22 4LN, United Kingdom

Industrial and commercial training

General description: Assessing training needs; designing learning; selecting training methods; delivering training; setting up a training facility. *Commencing date:* August 1989, August 1990. *Duration:* 13 weeks. *Qualifications:* Training officers and advisers and line managers with a responsibility for training. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* £4,450.

Host institution: Industrial Training Service Ltd.
Overseas Division
43 Market Place
Wetherby, West Yorkshire LS22 4LN, United Kingdom

Instructional techniques

General description: Objectives; communications; practical training; the psychology of training. *Commencing date:* To be arranged. *Duration:* 4-6 weeks. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* —. *Fee:*

Approximately £295 per week plus VAT, if applicable. (Accommodation, half-board, teaching materials included.)

Host institution: Eaton Hall International
Nottinghamshire County Council
Retford, Nottinghamshire DN22 0PR, United Kingdom

Management of the training function

General description: Programme identification and preparation; identification of training needs; planning and operation of training centres; managerial and technical testing methods; training material, preparation and use; trainer and instructor development
Commencing date: 5 February, 21 April, 3 September, 22 October 1989, 28 January, 24 April 1990. **Duration:** 6 weeks. **Qualifications:** A good level of basic education; some relevant experience. **English.** **Last date for receipt of applications:** 6 weeks before commencing date. **Fee:** £5,795 (residential).

Host institution: Rayfield Consultancy & Training Ltd.
Melrose House
Broadlayings
Wooton Hill
Newbury, Berkshire, United Kingdom

Management of training

General description: Principles of management; human resourcing; financial management; corporate planning in formulating training and development strategies.
Commencing date: 3 April 1989, 11 September 1989. **Duration:** 3 weeks. **Qualifications:** English. **Last date for receipt of applications:** 2 weeks before commencing date. **Fee:** £2,300.

Host institution: Management of Training Centre
Engineering Industry Training Board (EITB)
Webton Court
Allerton Park
Leeds LS7 4ND, United Kingdom

Management of training

General description: Basic knowledge and skills for trainers; behavioural aspects of organizational life; management and financial management; personnel management; systems approach to training; training in practice; training exercise and projects.
Commencing date: March, July. **Duration:** 12 weeks. **Qualifications:** Candidates in senior training posts. **English.** **Last date for receipt of applications:** 8 weeks before commencing date. **Fee:** Approximately £3,600.

Host institution: Royal Institute of Public Administration
Regent's College, Inner Circle, Regent's Park
London NW1 4NS, United Kingdom

Overseas training officers programme

General description: For those who have to carry out all, or some, of the following duties: the management of a training function, the development of human resources within an organization, the identification of training needs, the design and evaluation of training programmes, the implementation and running of training, the preparation of training materials, the provision of training/development advice to management. Candidates successfully completing this course and submitting a satisfactory project assignment report will be eligible for the Certificate in Training and Development

issued by the Institute of Training and Development. *Commencing date:* To be arranged. *Duration:* 12 weeks. *Qualifications:* English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* —.

Host institution: British Association for Commercial and Industrial Education (BACIE)
16 Park Crescent
London W1N 4AP, United Kingdom

Trainer development

General description: Management of training; individual and group learning; management development; training for change; the organization and its environment; management and the management of resources. *Commencing date:* To be arranged. *Duration:* —. *Qualifications:* Certificate in training and development; teaching qualifications or equivalent. English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: Fielden House Productivity Centre Ltd.
Fielden House
Mersey Road
West Didsbury, Manchester M20 8QA, United Kingdom

Trainer development

General description: The programme consists of two courses: (a) the certificate course, which caters for the training needs of recently appointed trainers who require a basic foundation of practical core-competency training skills, as well as for experienced trainers who want to develop their basic skills; (b) the diploma course, which caters for the training needs of trainers with present or future responsibility for managing training in their organizations; a prerequisite to the course is the certificate course or a similar course covering core-competency training skills. *Commencing date:* 3 January, 24 April, 4 September 1989. *Duration:* Certificate, 8 weeks. Diploma, 7 weeks. Complete programme, 15 weeks. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* To be arranged.

Host institution: Training Group Management Consultancy
Slough College of Higher Education
Wellington Street
Slough, Berkshire SL1 1YG, United Kingdom

Training for enterprise

General description: The programme is intended for teachers, educators and trainers who work with existing and potential entrepreneurs. Its objective is to enhance participants' ability to design and conduct effective training, at any level, to produce training material for use by others and by themselves and to manage and evaluate self-sustaining training activities. *Commencing date:* 3 September 1989, September 1990. *Duration:* 6 weeks. *Qualifications:* Participants must be currently or intend to be primarily involved in designing, conducting and/or managing training or education for enterprise. English. *Last date for receipt of applications:* July 1989, July 1990. *Fee:* 1989, £3,600 (including accommodation and meals); 1990, £3,750 (including accommodation and meals).

Host institution: Enterprise Development Centre
Cranfield School of Management
Cranfield, Bedford MK43 0AL, United Kingdom

Training: its design and management

General description: The aim of this course is to enable delegates to: learn how to manage the training function; link training to organization goals and manpower plans; promote and enhance the role of training in personal and organizational development; develop managerial skills and training skills; promote the importance of management training and development; identify training needs systematically; understand the learning process; plan, design, cost and monitor training programmes; run training sessions using appropriate methods and visual aids to meet set objectives; evaluate training. *Commencing date:* June. *Duration:* 12 weeks. *Qualifications:* Managers who have a central role in starting off or developing training activities in their organization or staff who are responsible for the design and implementation of training programmes, including trainers who require a broader more up-to-date approach. English. *Last date for receipt of applications:* 4 weeks before commencing date. *Fee:* £6,725 (fully residential).

Host institution: Crown Agents
Training Services
St. Nicholas House
Sutton, Surrey SM1 1EL, United Kingdom

Training of trainers

General description: A course for newly appointed training officers, or those who need to update or develop their skills and knowledge. Its objective is to enable participants to carry out their companies' training function for all operative, clerical, technical, supervisory and management categories of personnel. *Commencing date:* Throughout the year. *Duration:* 10 weeks. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: Fielden House Productivity Centre Ltd.
Fielden House
Mersey Road
West Didsbury, Manchester M20 8QA, United Kingdom

Training of trainers

General description: The development and utilization of training materials; effective use of audio-visual aids and video equipment; design of course curriculum; basic principles of adult education; evaluation techniques; participant preparation and presentation of training lessons; site visits to area government and private industry training facilities. *Commencing date:* 30 October 1989. *Duration:* 4 weeks. *Qualifications:* Bachelor's degree or equivalent. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* \$US 2,500.

Host institution: International Institute for Development
Graduate School, USDA
600 Maryland Avenue, S.W., Suite 134
Washington, DC 20024, United States of America

Occupational safety/Prévention des accidents du travail/Seguridad profesional

Working environment

General description: New technology and its influences on working environment; government policy on occupational safety and health; ergonomics concept and approaches to improve working environments; the improvement of working environment in industry; environment and productivity. *Commencing date:* To be

arranged. *Duration:* 3 weeks. *Qualifications:* Senior plant managers, industrial engineers, government officials concerned with working conditions and safety, and consultants of national productivity organizations or similar institutions of APO member countries. English. *Last date for receipt of applications:* 3 months before commencing date. *Fee:* \$US 100 per participant from profit-making organizations.

Organizer: Asian Productivity Organization
4-14 Akasaka 8-chome
Minato-ku
Tokyo 107, Japan

Venue: Indonesia

Health and safety management

General description: Health and safety; accident prevention; resulting costs; attitudes and policy; machine guarding and personal protection; transport safety; lifting, construction hazards; fire prevention and fighting; surveys and sampling; espionage and security; wellness; health and hygiene; first aid; chemical hazards; loss control. *Commencing date:* 5 June 1989, 4 June 1990. *Duration:* 10 weeks. *Qualifications:* English. *Last date for receipt of applications:* 1 week before commencing date. *Fee:* £3,995.

Host institution: British Safety Council
National Safety Centre
Chancellors Road
London W6 9RS, United Kingdom

Occupational hygiene

General description: The protection of hearing at work; worker education in noise; practical noise control; introduction to basic noise measurement; entry into confined spaces/naked light certification; repetitive strain injury; office environments/sick buildings; personal protection, its selection and use; occupational hygiene; health risks, a guide to workplace assessment; health and safety in welding; working with man-made mineral fibres; asbestos: its uses, hazards, bulk and fibre sampling, personal protection. *Commencing date:* To be arranged. *Duration:* —. *Qualifications:* Technical or professional qualifications at any level of industry. English. *Last date for receipt of applications:* 1-2 months before commencing date. *Fee:* To be arranged.

Host institution: AMARC (TES) Ltd.
Ellison Street
Hebburn, Tyne and Wear NE31 1YN, United Kingdom

Occupational training services

General description: RoSPA provides a comprehensive occupational safety training service, with courses designed to educate representatives of every level of industry and commerce. *Commencing date:* To be arranged. *Duration:* —. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: The Royal Society for the Prevention of Accidents (RoSPA)
Occupational Safety Training Services
22 Summer Road
Acocks Green, Birmingham B27 7UT, United Kingdom

Risk management

General description: Hazard and loss; security; arson; bomb threats; disaster phases; protection of cash and goods; insurance; liability for personal injury; notices to warn; product liability; identification of risk; measurement; frequency; near misses; statistics; advanced techniques for analysis and controlling risks. *Commencing date:* 14 August 1989, 13 August 1990. *Duration:* 10 weeks. *Qualifications:* English. *Last date for receipt of applications:* 1 week before commencing date. *Fee:* £2,350.

Host institution: British Safety Council
National Safety Centre
Chancellors Road
London W6 9RS, United Kingdom

Safety engineering

General description: Health and safety legislation; shipbuilding/ship-repair safety for managers and supervisors; self-audit and hazard spotting; ionising radiators; confined spaces; access and a safe place of work; storage and use of solvents, flammable liquids; industrial health and safety; abrasive wheels; fire extinguishers; safe manual handling/kinetics; safe lifting: basic appreciation for managers/supervisors; safety in slinging; safe craning operations; statutory requirements and systems lifting appliances; statutory requirements and systems for lifting tackle. *Commencing date:* To be arranged. *Duration:* —. *Qualifications:* Technical or professional qualifications. English. *Last date for receipt of applications:* 2 months before commencing date. *Fee:* To be arranged.

Host institution: AMARC (TES) Ltd.
Ellison Street
Hebburn, Tyne and Wear NE31 1YN, United Kingdom:

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B. DEVELOPING COUNTRIES/PAYS EN DÉVELOPPEMENT/ PAÍSES EN DESARROLLO

1. INDUSTRIAL BRANCHES/SECTEURS INDUSTRIELS/ RAMAS INDUSTRIALES

Building materials industries/Industrie des matériaux de construction/ Industrias de los materiales de construcción

Structural steel and reinforced concrete building construction

General description: Safe and efficient application of erection tools and equipment, scaffolding and material used in erection processes; theory of beam and column rebars, materials testing, splicing techniques, fabrication and installation; foundation works, forms and concrete works, CHB tile setting works. *Commencing date:* January, April, August 1989, 1990. *Duration:* 95 days. *Qualifications:* Bachelor's degree in engineering; or bachelor's degree in industrial education with at least 2 years of related work or teaching experience; or a 3-year technician course with 5 years of related work or teaching experience. *English.* *Last date for receipt of applications:* 1 month before commencing date. *Fee:* \$US 2,011 (room and board, \$US 430).

Organizer: Construction Manpower Development Foundation
Finman Building, 4th floor
Tordesillas Cor. Bautista Sts.
Salcedo Village, Makati, Metro Manila, Philippines

Venue: Construction Manpower Development Center
Bo. Salawag, Dasmariñas, Cavite, Philippines

Chemical industries/Industrie chimique/Industrias químicas

Curso básico de tecnología del caucho

Descripción general: Temas teóricos: propiedades en crudo; propiedades en vulcanizados; química de polímeros; ciclos de vulcanización; el reforzado; introducción al cálculo para técnicas de caucho; control de procesos. Clases prácticas: procesos en planta piloto (mezclado, vulcanización, reometría); ensayos físicos y químicos; visita a fábrica de neumáticos. *Fecha de iniciación:* Marzo. *Duración:* 8 meses. *Calificaciones:* Título: secundario. Español. *Fecha límite para la recepción de las solicitudes:* 4 abril 1989, 5 abril 1990. *Derechos de inscripción:* \$US 215.

Institución huésped: Centro de Investigación Tecnológica de la Industria del Caucho (CITIC)
Avenida Gral. Paz entre Constituyentes y Albarellos
San Martín, Provincia de Buenos Aires, Argentina

Curso superior de tecnología del caucho

Descripción general: Actualización de procesos y maquinarias; química y termodinámica de polímeros; teoría de la vulcanización y sistemas antidegradantes; materias primas y productos auxiliares. *Fecha de iniciación:* Abril 1989, 1990. *Duración:*

7 meses. *Calificaciones:* Título universitario. Español. *Fecha límite para recepción de las solicitudes:* 4 abril 1989, 5 abril 1990. *Derechos de inscripción:* \$US 250.

Institución huésped: Centro de Investigación Tecnológica de la Industria del Caucho (CITIC)

Avenida Gral. Paz entre Constituyentes y Albarillos
San Martín, Provincia de Buenos Aires, Argentina

Training in laboratory techniques

General description: Training is offered in the following fields: analytical testing, physical testing, quality control of fertilizers, corrosion measurement, beneficiation of phosphate rock, phosphoric acid production, fertilizer granulation. It is useful for personnel engaged in research and development. Training is offered at the Fertilizer Research and Development Institute at Faisalabad. *Commencing date:* To be arranged. *Duration:* 12 weeks. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* \$US 500 per month.

Host institution: National Fertilizer Corporation of Pakistan (Pvt.) Ltd.
Alfalah Building, 1st floor
Shahrah-e-Quaid-e-Azam
Lahore, Pakistan

Training of operators/technicians in chemical and fertilizer industries

General description: The aim of the programme is to train and supply operators and technicians to chemical and fertilizer industries to ensure safe and efficient operation of the plant. Theory includes basic principles of technology. On-the-job training. *Commencing date:* 1 September 1989, 1990. *Duration:* 1 year. *Qualifications:* High school or diploma in associate engineering. English. *Last date for receipt of applications:* 31 July 1989, 1990. *Fee:* \$US 5,000 (including board and lodging).

Host institution: National Fertilizer Corporation of Pakistan (Pvt.) Ltd.
Alfalah Building, 1st floor
Shahrah-e-Quaid-e-Azam
Lahore, Pakistan

Training in the utilization of medicinal and aromatic plants in the pharmaceutical and related industries (TRUMAP)

General description: Collection, authentication and post-harvest treatment of wild plants; plant propagation; standardization of plant drugs; techniques and technology of distillation; extraction; separation and equipment design; formulation of plant extracts into dosage forms; management of research and development; marketing; economic and regulatory aspects of medicinal and aromatic plants and drugs obtained therefrom. *Commencing date:* 11 September 1989. *Duration:* 18 days. *Qualifications:* University degree in pharmacy, chemistry, chemical engineering or botany and experience in the field of medicinal and aromatic plants. English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: Medicinal Plants Research Centre
University of Anatolia
Eskisehir, Turkey

Genetic engineering for the production of drugs and pharmaceuticals

General description: Nucleic acid chemistry, ribonucleic acid biochemistry, enzyme preparations for the recombinant deoxyribonucleic acid work, theory and practice of fermentation technology. *Commencing date:* 13 September 1989, 1990. *Duration:* 7 weeks. *Qualifications:* Graduates in chemistry, physical chemistry, biology,

medicine, pharmacy, biotechnology. English. *Last date for receipt of applications:* End of June 1989, 1990. *Fee:* To be arranged.

Host institution: Centre for Genetic Engineering and Biotechnologies
Vojvode Stepe 283
Belgrade, Yugoslavia

Electrical and electronic industries/*Industries électriques et électroniques/* *Industrias eléctricas y electrónicas*

Industrial engineering

General description: Electronics for process control and analytical instrumentation, laboratory equipment evaluation and preventive maintenance. *Commencing date:* To be arranged. *Duration:* 1-8 weeks. *Qualifications:* Professional qualifications. English (possibly Arabic). *Last date for receipt of applications:* —. *Fee:* SwF 1,400-SwF 4,800.

Host institution: P & R Techconsult Ltd.
Association of Advanced Technical Services GmbH
P.O. Box 3885
Nicosia, Cyprus

Industrial electronics

General description: Principles of electronics as applied to industrial operations; diagnosing the causes of faults in electronics equipment and circuits; semiconductor devices; digital techniques; microprocessor; electronic circuits, optoelectronics. *Commencing date:* April, October 1989, 1990. *Duration:* 9 months. *Qualifications:* Secondary school certificate, "O" level or equivalent. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* \$US 150 per month.

Host institution: Petroman
Enar Petrotech Services Ltd., Musarrat Building, 1st floor
Sultan Ahmed Shah Road, Off: Shaheed-e-Millat Road
Karachi, Pakistan

Electrical system control, design and installation

General description: Design, installation and operation of lighting power; control, grounding, protection, emergency and communication systems. *Commencing date:* January, April, August 1989, 1990. *Duration:* 95 days. *Qualifications:* Bachelor's degree in engineering; or bachelor's degree in industrial education with at least 2 years of related work or teaching experience; or a 3-year technician course with 5 years of related work or teaching experience. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* \$US 510 (board and lodging, \$US 430).

Organizer: Construction Manpower Development Foundation
Finman Building, 4th floor
Tordesillas Cor Bautista Sts.
Salcedo Village, Makati, Metro Manila, Philippines

Venue: Construction Manpower Development Center
Bo. Salawag, Dasmariñas, Cavite, Philippines

Integrated circuit (IC) development and production

General description: Postgraduate level course on: introduction into IC development and production; plant engineering, equipment and facility requirements for IC

production; physics and technology of IC: processes for IC production; IC electrical testing; IC mask design; IC quality and reliability. *Commencing date:* To be arranged. *Duration:* —. *Qualifications:* English. *Last date for receipt of applications:* End of June. *Fee:* To be arranged.

Organizer: Centre for Permanent Education in Electrical-Electronic Engineering of Niš
Faculty of Electronics
Beogradska 14
1800 Niš, Yugoslavia
in collaboration with
Electronic Industry of Niš
Contact address:
Administration for International Scientific, Educational, Cultural and Technical Co-operation
Nemanjina 22
11000 Belgrade, Yugoslavia

Food processing industries/Industrie alimentaire/Industrias alimentarias

Planning and promotion of agro-industries

General description: Developing an insight into various groups of industries broadly categorized as agro-industries through a study of the scope for each of these under different agro-climatic environments, policies governing them in developing countries and institutional framework needed to encourage them; sharing the Indian experience and that of other developing countries in stimulating the growth of agro-industries in a planned manner; and developing skills to prepare feasibility studies for agro-industries and to study alternate technologies and different sizes of plants that can be considered for adoption in developing countries. *Commencing date:* October-December. *Duration:* 8 weeks. *Qualifications:* Personnel associated with policy formulation, promotion and development of agro-industries in the traditional cottage industry sector and small- and medium-scale sectors. English. *Last date for receipt of applications:* 15 August. *Fee:* \$US 2,320 (including board and lodging while at Institute campus and travel cost of study visits; board and lodging during study visits not included).

Host institution: National Institute of Small Industry Extension Training (NISIET)
Yousufguda, Hyderabad-500045, India

Quality control for food industries

General description: New course being developed. *Commencing date:* 13 November. *Duration:* 25 days. *Qualifications:* Bachelor's degree. *Last date for receipt of application:* 6 weeks before commencing date. *Fee:* \$US 1,500.

Host institution: CEC/AIT
P.O. Box 2754
Bangkok, Thailand

Sugar technology

General description: Storage, juice production, juice purification, evaporation, crystallization, heat economy; microbiological control, pollution control, process control, quality control. *Commencing date:* 18 September 1989. *Duration:* 8 weeks.

Qualifications: Up to 5 years of engineering experience. English. *Last date for receipt of applications:* 31 May 1989. *Fee:* —.

Host institution: Turkish Sugar Corporation
Sugar Institute
Technological Research Division
Etimesgut, Turkey

Dairy technology

General description: Fluid milks; fermented milks; cheese and processed cheese; butter and cream; ice cream and frozen desserts; condensed and dry milk products; by-products from milk; quality control of milk products. *Commencing date:* 1 June. *Duration:* 4 months. *Qualifications:* Bachelor's degree. *Last date for receipt of applications:* End of March. *Fee:* \$US 700 per week.

Host institution: Federal Centre for Organization Management and Training
(SACEN)
Faculty of Technology
Narodnog fronta 53
Novi Sad, Yugoslavia

Fruit and vegetable technology

General description: Raw material; composition, colours, flavours; enzymes, pectic substances; pasteurized and sterilized products; dried products; preserves (jams, marmalades); frozen products; fermented products; juices and concentrates. *Commencing date:* 1 October. *Duration:* 4 weeks (lecture); 4 weeks (practice). *Qualifications:* Food technology school. English. *Last date for receipt of applications:* End of March. *Fee:* \$US 7,500.

Host institution: Federal Centre for Organization Management and Training
(SACEN)
Faculty of Technology
Narodnog fronta 53
Novi Sad, Yugoslavia

Meat production and meat processing

General description: Organization of meat-processing plant; transportation of animals for slaughter; cattle slaughtering lines; poultry slaughtering lines; chilling rooms and freezing tunnel; cutting and deboning room; by-products collecting and processing; sausage production lines; meat canning lines. *Commencing date:* 1 June. *Duration:* 2 or 6 weeks. *Qualifications:* Agricultural or food technology school. English. *Last date for receipt of applications:* —. *Fee:* \$US 150 per day.

Host institution: Federal Centre for Organization Management and Training
(SACEN)
Institute for meat, milk, fat and oil, fruit and vegetable technology
Faculty of Technology
Novi Sad, Yugoslavia

Technology, organization and management of agro-industrial enterprises

General description: Group training programme for managers and engineers covering: organization, management, planning, investment policy, economic infrastructure, co-operation with private sectors and engineering activities in development of integrated agro-industrial enterprises and food processing plants. Practical experience

covers three separate groups of technology lines: vegetable oils and fats technology; dairy technology; and fruit and vegetable processing technology. *Commencing date:* First Tuesday in September. *Duration:* 45 days. *Qualifications:* Degree in engineering; at least 3 years of experience in food processing and/or managing. English. *Last date for receipt of applications:* 3 months before commencing date. *Fee:* —.

Host institution: Federal Centre for Organization Management and Training
(SACEN)
Novi Sad, Yugoslavia

Leather and leather products industries/Industrie du cuir et des articles en cuir/ Industrias del cuero y de los productos de cuero

Tecnología del cuero

Descripción general: Proceso de fabricación; control de calidad; efluentes de curtiembre. *Fecha de iniciación:* 1 de agosto. *Duración:* 3 meses. *Calificaciones:* Formación técnica secundaria o terciaria en curtiduría o en química. *Fecha límite para la recepción de las solicitudes:* 1 abril. *Derechos de inscripción:* Para ser acordado.

Institución huésped: Centro de Investigación de Tecnología del Cuero (CITEC)
Camino Centenario
e/505 y 508 (CC. No. 6) 1897
M.B. Gonnet, Argentina

Leather goods

General description: Materials used; tools and machines; leather craftwork; costing; preparation of layouts; project reports and marketing. *Commencing date:* 1st week of March. *Duration:* 48 weeks. *Qualifications:* Matriculation. English. *Last date for receipt of applications:* 31 January. *Fee:* Rs 5,000 per month.

Host institution: Central Leather Research Institute
Adyar, Madras, 600020, India

Leather processing technology

General description: Leathers for footwear; leathers for leather goods; leathers for garments. *Commencing date:* To be arranged. *Duration:* 4 months. *Qualifications:* Matriculation. English. *Last date for receipt of applications:* 2 months before commencing date. *Fee:* Rs 5,000 per month.

Host institution: Central Leather Research Institute
Adyar, Madras, 600020, India

Quality control and testing of leathers

General description: Analysis of materials used in leather manufacture; physical and chemical testing of leathers. *Commencing date:* To be arranged. *Duration:* 4 months. *Qualifications:* Matriculation. English. *Last date for receipt of applications:* 2 months before commencing date. *Fee:* Rs 5,000 per month.

Host institution: Central Leather Research Institute
Adyar, Madras, 600020, India

Tannery waste treatment

General description: Treatment of tannery wastes. *Commencing date:* To be arranged.
Duration: 4 months. *Qualifications:* Matriculation. English. *Last date for receipt of applications:* 2 months before commencing date. *Fee:* Rs 5,000.

Host institution: Central Leather Research Institute
Adyar, Madras, 600020, India

Mechanical and metalworking industries/Industrie de construction mécanique et de transformation de métaux/ Industrias mecánicas y de transformación de metales

Especialización práctica para máquinas herramientas con CNC

Descripción general: Métodos operativos; dibujo y diseño; programación y operación práctica; control de calidad. *Fecha de iniciación:* 1 julio 1989, 1990. *Duración:* 4 meses. *Calificaciones:* Profesional en máquinas herramientas; experiencia industrial de 2 años mínimo en máquinas herramientas; conocimiento de la mecánica de precisión, dibujo y diseño técnico. *Fecha límite para la recepción de las solicitudes:* 31 mayo 1989, 1990. Español o italiano. *Derechos de inscripción:* Costo de matrícula y pruebas: \$US 500; mensualidad: \$US 500.

Institución huésped: Senati
Instituto de Formación Profesional en Máquinas-Herramientas con CNC
Apartado 1769
"Leonardo da Vinci"
García y Lastres, 2da. Cdra., Urb. Ingeniería
Lima 31, Perú

Operation and management of heavy equipment

General description: Productive operation of bulldozers, wheel loaders, hydraulic excavators (backhoe) and dump trucks. *Commencing date:* January, April, August 1989, 1990. *Duration:* 95 days. *Qualifications:* Bachelor's degree in engineering or industrial education; at least 2 years of related work or teaching experience; or 3-year technician course with 5 years of related work or teaching experience. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* \$US 2,382 (board and lodging, \$US 430).

Organizer: Construction Manpower Development Foundation (CMDF)
Finman Building, 4th floor
Tordesillas Cor. Bautista Sts.
Salcedo Village, Makati, Metro Manila, Philippines

Venue: Construction Manpower Development Center
Bo. Salawag, Dasmariñas, Cavite, Philippines

Plumbing and industrial piping design and installation

General description: Layouting and installation of water supply piping system, hot water supply, DWV, HVAC and industrial piping systems. *Commencing date:* January, April, August 1989, 1990. *Duration:* 95 days. *Qualifications:* Bachelor's degree in engineering or industrial education; at least 2 years of related work or teaching experience; or 3-year technician course with 5 years of related work or teaching

experience. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* \$US 1,071 (board and lodging, \$US 430).

- Organizer:** Construction Manpower Development Foundation (CMDF)
Finman Building, 4th floor
Tordesillas Cor. Bautista Sts.
Salcedo Village, Makati, Metro Manila, Philippines
- Venue:** Construction Manpower Development Center
Bo. Salawag, Dasmarinas, Cavite, Philippines

Welding processes and testing technology

General description: Welding methods, metallurgy, design, materials, procedures, inspection/testing and quality control and "hands-on" experience on SMAW (DC/AC), GMAW (MIG/MAG), SAW, GTAW/TIG, GAS cutting and ARC gouging. *Commencing date:* January, April, August 1989, 1990. *Duration:* 95 days. *Qualifications:* Bachelor's degree in engineering or industrial education; at least 2 years of related work or teaching experience; or 3-year technician course with 5 years of related work or teaching experience. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* \$US 2,010 (board and lodging, \$US 430).

- Organizer:** Construction Manpower Development Foundation (CMDF)
Finman Building, 4th floor
Tordesillas Cor. Bautista Sts.
Salcedo Village, Makati, Metro Manila, Philippines
- Venue:** Construction Manpower Development Center
Bo. Salawag, Dasmarinas, Cavite, Philippines

Welding engineering

General description: Arc-welding I and II; chemical and mechanical welding; brazing soldering; resistance welding; laser welding; automation; robotics; design; welding fabrication-technology (I) and materials (II); fracture mechanics; welding metallurgy; corrosion; non-destructive testing; quality management and metallography. *Commencing date:* September (Porto); October (Lisbon). *Duration:* 9 months. *Qualifications:* Mechanical and metallurgical engineers. Portuguese. *Last date for receipt of applications:* June (Porto); July (Lisbon). *Fee:* —.

- Host institution:** Instituto de Soldadura e Qualidade
Universidade Nova de Lisbon
Faculdade de Ciências e Tecnologia
Lisbon, Portugal

Mécanique, tôlerie, électricité, formations spécifiques

Description générale : Mécanique : entretiens industriels, machines-outils, moteurs diesel, hydraulique pneumatique; injection. Tôlerie : chaudronnerie, tuyauterie, soudage. Electricité : électromécanique, électromécanique engins, électronique. Formations spécifiques : manutention; sécurité. Trois niveaux sont proposés dans ces groupes de spécialités : (a) niveau ouvrier professionnel : qualification OP2 ; (b) niveau agent de maîtrise : qualification chef d'équipe et contremaitre ; (c) niveau perfectionnement : concerne les techniciens supérieurs. *Début du cours :* A arranger. *Durée :* 8 mois pour les niveaux (a) et (b); 4 à 12 semaines pour le niveau (c). *Qualifications :* Examen dossier de candidatures; tests d'admission. Français.

Dernier délai pour la soumission des candidatures : 15 juillet. Droit d'inscription : \$US 3 000.

Organisme hôte : Centre de formation et de perfectionnement de Dakar-Marine
BP 438
Boulevard Félix-Eboué
Dakar, Sénégal

Aeronautical engineering

General description: Aerodynamics; aircraft structure and construction; aircraft and rocket propulsion. *Commencing date:* To be arranged. *Duration:* -. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Organizer: Aviation Training Centre
Belgrade
Contact address:
Administration for International Scientific, Educational, Cultural
and Technical Co-operation
Nemanjina 22
11000 Belgrade, Yugoslavia

Industrial production and sterilization

General description: Production of disposable medical devices, industrial sterilization, radiational sterilization practised in Yugoslavia. *Commencing date:* October. *Duration:* —. *Qualifications:* English. *Last date for receipt of applications:* End of April. *Fee:* To be arranged.

Host institution: Institute of Nuclear Sciences "Boris Kidrič"
Laboratory for Solid State Physics and Radiational Chemistry
P.O. Box 522
11000 Belgrade, Yugoslavia

Metallurgical industries/Industrie métallurgique/Industrias metalúrgicas

Basic oxygen furnaces and continuous slab casting operations

General description: Safety rules at BOF and CC; general shop description; furnace operation; slab caster; process variables of continuous casting. *Commencing date:* September. *Duration:* 3 months. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* —.

Host institution: Erdemir
Eregli Iron and Steel Plant
Eregli, Turkey

Blast furnace operations

General description: Safety rules at blast furnaces; casthouse practice; hot-blast stoves; raw material testing; blast furnace burdening; furnace operation: proper slag practice, proper burden distribution, optimum wind rate, maximum flame temperature, problems of blast furnace operation and handling practice. *Commencing date:* September. *Duration:* 3 months. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* —.

Host institution: Erdemir
Eregli Iron and Steel Plant
Eregli, Turkey

Cold rolling mill and finishing lines operations

General description: Safety rules of cold rolling mill; introduction to 4 high 5 stand tandem cold mill; fundamentals of cold rolling technology; roll coolant system; types of lubricants and application system in cold rolling of steel; introduction to alkali cleaning line; introduction to batch annealing line; temper rolling of cold-rolled sheets; temper rolling of tin black plates; section of electrolytic tinning; cleaning, pickling and plating units of electrolytic tinning line; operations of 60" cold roller shearing line with side trimming; operations of 60" hot rolled shearing line with side trimming; 42" hot rolled slitting line operations. *Commencing date:* September. *Duration:* 3 months. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* —.

Host institution: Erdemir
Eregli Iron and Steel Plant
Eregli, Turkey

Hot rolling mill operation

General description: Safety rules at HRM; general description of HRM-I; general description of HRM-II; fundamentals of hot rolling theory; production planning of hot rolling mill; quality control; personnel management. *Commencing date:* September. *Duration:* 3 months. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* —.

Host institution: Erdemir
Eregli Iron and Steel Plant
Eregli, Turkey

Metallurgical quality control

General description: Relations with other departments and institutes relative to quality control; concepts of specification standards and quality; product types; raw material specifiers; steel types; determination of the quality control conditions at the continuous caster; defects of the continuous casting slabs and reasons; determination of the hot rolling mill quality control conditions; measuring of the finished product and vitrasonic tests; determination of the cold rolling mill quality control conditions; controlling of the cold rolling product; electrolytic tin plating line; control of the process and product; inspection of the dimension of the finished product; metallurgical laboratory sample preparation for mechanical lectures about it; macro and micro examination; X-ray examination and photograph taking; customer technical service evaluation of the customer complaints. *Commencing date:* September. *Duration:* —. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* —.

Host institution: Erdemir
Eregli Iron and Steel Plant
Eregli, Turkey

Application of the material research methods and techniques for process and product development in aluminium industry

General description: Methods: metallography; X-ray diffraction; mechanical testing; thermoanalytical methods (DTA, TGA, dilatometry); physical, chemical analysis. Processes and products: alumina and aluminium production; aluminium casting and processing (rolling, extrusion, forging drawing, converting, surface treatments); by-products; advanced products and processes. *Commencing date:* To be arranged.

Duration: —. Qualifications: English. Last date for receipt of applications: To be arranged. Fee: To be arranged.

Host institution: Aluminium Institute for Research and Development
Kombinat Aluminijuma Titograd
Titograd, Yugoslavia

Packaging industries/Industrie de l'emballage/ Industrias relacionadas con el embalaje

Certificate in packaging programme

General description: Concepts of packaging; packaging materials; packaging characteristics; ancillary materials; test procedures; packaging of food products; methods of storage; packaging of other specific items; speciality packages; logistic and physical distribution; standards of quality control; packaging process, machinery and equipment; package embellishment and printing; packaging and marketing; packaging economics; packaging management; industrial visits; laboratory visits; project works. *Commencing date:* Mid-September 1989, 1990. *Duration:* 3 months. *Qualifications:* Degree in science, technology, engineering, commerce, economics, mathematics or a diploma in engineering. English. *Last date for receipt of applications:* Mid-August. *Fee:* \$US 1,200.

Host institution: Indian Institute of Packaging
Post Box 9432
E-2, MIDC Area Andheri(e)
Bombay 400093, India

Packaging technology

General description: For management cadre. Lectures on packaging; visits to 26 different industrial units. *Commencing date:* Mid-September. *Duration:* 3 months. *Qualifications:* University degree. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* \$US 1,000 (for foreign students); Rs 3,500 (for Indian students).

Host institution: Indian Institute of Packaging
Post Box 9432
E-2, MIDC Area Andheri(e)
Bombay 400093, India

Testing of packaging materials

General description: Packaging (in-laboratory training). *Commencing date:* To be arranged. *Duration:* —. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: Indian Institute of Packaging
Post Box 9432
E-2, MIDC Area Andheri(e)
Bombay 400093, India

Textile industries/Industrie textile/Industrias textiles

Quality control and testing in wet processing

General description: The course covers the exact methods of testing and of implementing the quality control techniques. *Commencing date:* —. *Duration:* 15 working days.

Qualifications: Qualified in textile chemistry; 3 to 5 years of experience in quality control in a chemical laboratory. English. *Last date for receipt of applications:* —. *Fee:* —.

Host institution: Textile Industry Research and Development Centre
P.O. Box 479
Moulvi Tamizuddin, Khan Road
Karachi, Pakistan

Spinning (fitter instructor)

General description: In-plant training to prepare good fitters instructors (drawing, roving and ring frames) so that they may undertake the training of fitters by using Analytical Methods Productivity System (AMPS) with a view to streamlining the working of fitters on a scientific basis. *Commencing date:* —. *Duration:* 10-12 weeks.

Qualifications: Matriculation; 3 years of experience in the department in which training is sought. English, Urdu. *Last date for receipt of applications:* —. *Fee:* —.

Host institution: Textile Industry Research and Development Centre
P.O. Box 479
Moulvi Tamizuddin, Khan Road
Karachi, Pakistan

Spinning (operative instructor)

General description: The course aims at training the instructors so that they may adopt latest techniques to train the new as well as already working operatives by using Analytical Methods Productivity System (AMPS). *Commencing date:* —. *Duration:* 15 working days. *Qualifications:* Matriculation; 5 years of experience as supervisor. English, Urdu. *Last date for receipt of applications:* —. *Fee:* —.

Host institution: Textile Industry Research and Development Centre
P.O. Box 479
Moulvi Tamizuddin Khan Road
Karachi, Pakistan

Spinning (quality control)

General description: The aim of the course is to acquaint the trainees with scientific textile testing and quality control techniques, statistical processing of data, analyses and interpretation of data for quality control purposes. *Commencing date:* —. *Duration:* 15 working days. *Qualifications:* Inter-Science or Bachelor of Science; 5 years of experience in quality control (spinning). English. *Last date for receipt of applications:* —. *Fee:* —.

Host institution: Textile Industry Research and Development Centre
P.O. Box 479
Moulvi Tamizuddin, Khan Road
Karachi, Pakistan

Spinning (supervisors)

General description: Upgrade the technical know-how of supervisors to enable them to look for faults beforehand and rectify them. *Commencing date:* —. *Duration:* 18 working days. *Qualifications:* Diploma in textiles; 5 years of experience. English, Urdu. *Last date for receipt of applications:* —. *Fee:* —.

Host institution: Textile Industry Research and Development Centre
P.O. Box 479
Moulvi Tamizuddin, Khan Road
Karachi, Pakistan

Textile industry

General description: The aim of the course is to introduce basic work study concepts and industrial engineering in the textile industry. *Commencing date:* —. *Duration:* 18 working days. *Qualifications:* Bachelor of Science in textile technology; 3 to 5 years of experience as assistant or master. English. *Last date for receipt of applications:* —. *Fee:* —.

Host institution: Textile Industry Research and Development Centre
P.O. Box 479
Moulvi Tamizuddin, Khan Road
Karachi, Pakistan

Weaving (fitter instructors)

General description: In-plant training to enable fitter's instructors to undertake the training of fitters by employing Analytical Methods Productivity System (AMPS) with a view to streamlining the working of fitters on a scientific basis. *Commencing date:* —. *Duration:* 72 working days. *Qualifications:* Matriculation; 5 years of experience as weaving fitter. English, Urdu. *Last date for receipt of applications:* —. *Fee:* —.

Host institution: Textile Industry Research and Development Centre
P.O. Box 479
Moulvi Tamizuddin, Khan Road
Karachi, Pakistan

Weaving (instructors)

General description: The objective of the course is to train the instructors so that they may adopt latest techniques to train the new as well as already working weavers by using Analytical Methods Productivity System (AMPS). *Commencing date:* —. *Duration:* 18 working days. *Qualifications:* Matriculation; 5 years of experience as a weaving supervisor. English, Urdu. *Last date for receipt of applications:* —. *Fee:* —.

Host institution: Textile Industry Research and Development Centre
P.O. Box 479
Moulvi Tamizuddin, Khan Road
Karachi, Pakistan

Weaving (shed supervisors)

General description: The objective of the course is to upgrade the technical know-how and skills of supervisors. *Commencing date:* —. *Duration:* 12 working days.

Qualifications: Matriculation; 4 to 5 years of experience in weaving shed. English, Urdu. *Last date for receipt of applications:* —. *Fee:* —.

Host institution: Textile Industry Research and Development Centre
P.O. Box 479
Moulvi Tamizuddin, Khan Road
Karachi, Pakistan

Textile quality control

General description: Textile manufacturing processes; mill layout/cost accounting; standardization and consumer education; physical and chemical testing; statistical quality control. *Commencing date:* To be arranged. *Duration:* 4 months. *Qualifications:* Textile technicians. English. *Last date for receipt of applications:* To be arranged. *Fee:* \$US 750.

Host institution: Philippine Textile Research Institute
P.O. Box 1321
General Santos Avenue
Bicutan, Tagig
MCC, Makati, Metro Manila, Philippines

Wood processing and wood products industries/ Industrie du bois et des produits du bois/ Industrias de elaboración de la madera y de productos de madera

Bamboocraft technology

General description: Lectures, demonstration of processes and methods, and "hands on" experience on basic and advance areas of know-how on bamboocraft. *Commencing date:* 12 January. *Duration:* 45 days. *Qualifications:* Basic knowledge of bamboocraft. English. *Last date for receipt of applications:* End of December. *Fee:* To be arranged.

Host institution: Department of Trade and Industry
Cottage Industry Technology Center
20 Russet Street
SSS Village, Concepción, Marikina, Metro Manila, Philippines

Woodworking

General description: Short courses on: operation of basic woodworking machines; furniture and cabinet-making; millwrighting and maintenance; furniture finishing. *Commencing date:* To be arranged. *Duration:* 7-15 days. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: Department of Trade and Industry
Cottage Industry Technology Center
20 Russet Street
SSS Village, Concepción, Marikina, Metro Manila, Philippines

Other industrial branches and intersectoral programmes/ Autres secteurs industriels et programmes intersectoriels/ Otras ramas industriales y programas intersectoriales

Methods and techniques of elemental analysis

General description: Development of economic methods to analyse different materials, such as agricultural products, metallurgical samples, crude oil, geological samples,

UV-VIS spectrophotometry, atomic absorption spectroscopy, ICAP/ICP spectrometry. *Commencing date:* To be arranged. *Duration:* 1-8 weeks or up to 9 months. *Qualifications:* Professional qualifications. English (Arabic). *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: P & R Techconsult Ltd.
Association of Advanced Technical Services GmbH
P.O. Box 3885
Nicosia, Cyprus

Industrial instrumentation

General description: The course is designed to train technicians to deal with the pneumatic electronic, electrical and hydraulic aspects of a variety of industrial instruments as well as to undertake troubleshooting of these instruments. Courses on: pressure and temperature measuring instruments; flow and level measuring instruments; telemetry and display systems; analytical and testing instruments. *Commencing date:* April, October 1989, 1990. *Duration:* 9 months. *Qualifications:* Secondary school certificate, "O" level or equivalent. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* \$US 150 per month.

Host institution: Petroman
Enar Petrotech Services Ltd.
Musarrat Building, 1st floor
Sultan Ahmed Shah Road, Off Shaheed-e-Millat Road
Karachi, Pakistan

Technical training courses (engineers, technicians)

General description: Dye and tool making; heating treatment; maintenance of hydraulic and pneumatic circuits; foundry technology; automotive electrical maintenance; radio and television electronics; electrical maintenance of textile machines; mechanical maintenance of textile machines; electrical and electronic control. *Commencing date:* 1 October. *Duration:* —. *Qualifications:* Engineers, technicians. Arabic. *Last date for receipt of applications:* 1 January. *Fee:* \$US 500.

Host institution: Ministry of Industry
Vocational Training Department
Damascus, Syrian Arab Republic

Instrumentation for laboratories and machine shops

General description: New course being developed. *Commencing date:* 3 June, 28 July. *Duration:* 2 months. *Qualifications:* Bachelor's degree. *Last date for receipt of applications:* 1½ months before commencing date. *Fee:* \$US 3,500 (including training materials and transportation cost for scheduled field trips).

Host institution: CEC/AIT
P.O. Box 2754
Bangkok, Thailand

Measurement techniques in research and quality control

General description: Basic measurements theory; planning of experiments; application of various measurement systems; computer applications in processing of measured data; statistical analysis; treating of static and dynamic processes; application of strain gauges; dynamic balancing, modal analysis, fatigue life evaluation; practical performing of experiments with emphasis on industrial applications. *Commencing*

date: Throughout the year. *Duration:* 4 weeks. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: Institute of Mechanization
Faculty of Technical Sciences
V. Vlahovića 3
21000 Novi Sad, Yugoslavia

Physical methods of metal material investigation

General description: Optical microscopy; sample preparation for transmission and scanning electron microscope; transmission electron microscopy (light and dark field, selective diffraction); scanning electron microscopy (SE and BE images, qualitative and quantitative chemical microanalysis); application of these methods in concrete problems. *Commencing date:* —. *Duration:* 14 days. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* —.

Host institution: Metalurški Institut "Hasan Brkić"
Zenica, Yugoslavia

2. INDUSTRIAL FUNCTIONS/FONCTIONS INDUSTRIELLES/ FUNCIONES INDUSTRIALES

Automation and data processing/Automatisation et traitement des données/ Automatización y procesamiento de datos

Computer technology

General description: Computer software development and network planning at the elementary, intermediary and advanced levels. *Commencing date:* To be arranged. *Duration:* 1-8 weeks. *Qualifications:* Professional qualifications. English (possibly Arabic). *Last date for receipt of applications:* —. *Fee:* SwF 3,300-SwF 7,800.

Host institution: P & R Techconsult Ltd.
Association of Advanced Technical Services GmbH
P.O. Box 3885
Nicosia, Cyprus

Computer science

General description: Computer languages; operating micros proficiently; running programmes on computers; understanding techniques needed to be effective in system analysis. *Commencing date:* January 1989, 1990. *Duration:* 1 year. *Qualifications:* Higher secondary school certificate or "A" level. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* \$US 150 per month.

Host institution: Petroman
Enar Petrotech Services Ltd.
Musarrat Building, 1st floor
Sultan Ahmed Shah Road, Off: Shaheed-e-Millat Road
Karachi, Pakistan

Informatics for management

General description: Rational utilization of informatics in managing small- and medium-size enterprises; methods of analysis and design of management information systems; selection of areas of informatics application in managing a modern enterprise; case-studies based on examples from developing countries; trainees will finally develop an outline of the management information system in their own unit or sector. *Commencing date:* June or October 1989. *Duration:* 4-10 weeks. *Qualifications:* Professional qualifications. English or French. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* \$US 540 per week (including accommodation and meals).

Host institution: International Centre for Management Development (CEPECA)
Otopeni
Soseaua Odăi 20
Bucharest, Romania

Computer assisted regional planning

General description: Concept of information systems for district level planning; introduction to microcomputers, hardware and operating systems (MS-DOS); data

entry, update and data base management; statistical methods useful for regional planning (SPSS); use of spreadsheets for project monitoring; computer drawn maps for analysis of settlements, transport and natural resources; packages specially designed for regional analysis; "hands-on" laboratory work; field visits and case-studies. *Commencing date:* 31 July. *Duration:* 4 weeks. *Qualifications:* Bachelor's degree. *Last date for receipt of applications:* 1½ months before commencing date. *Fee:* \$US 2,000.

Host institution: CEC/AIT
P.O. Box 2754
Bangkok, Thailand

2 ND HRM RM (roughing mill) automation VAX-11/750 system

General description: General description of computer systems and VAX-11/750; general description of system utilities for real-time process control; general description of RM process control system. *Commencing date:* September. *Duration:* 3 months. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* —.

Host institution: Erdemir
Eregli Iron and Steel Plant
Eregli, Turkey

Computer application in design and testing of mechanical constructions

General description: Introduction to IBM/PC operating system; programming languages; kinematic and dynamic analysis of mechanical systems; static and dynamic analysis of complex structures by means of finite elements; digital data processing; practical applications. *Commencing date:* Throughout the year. *Duration:* 4 weeks. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: Institute of Mechanization
Faculty of Technical Sciences
V. Vlahovića 3
21000 Novi Sad, Yugoslavia

Environment/Environnement/Medio ambiente

Environmental impact assessment and review

General description: Policy and legislation; the role of environmental protection and pollution control agencies; baseline study and reconnaissance; rapid inventories and engineering approximations; preliminary and detailed assessment procedures and techniques (including methodologies for impact identification and prediction); evaluation of mitigating measures; consultation and public participation; implementation monitoring and control; research and data analysis; decision-making on alternatives; documentation and presentation of findings. *Commencing date:* 30 October. *Duration:* 4 weeks. *Qualifications:* Bachelor's degree. *Last date for receipt of applications:* 1½ months before commencing date. *Fee:* \$US 1,600.

Host institution: CEC/AIT
P.O. Box 2754
Bangkok, Thailand

Toxic and hazardous waste management

General description: Overview, legislation and toxicity; storage and transport, technologies and developments; treatment and recycling of waste; disposal of wastes, design considerations and alternatives; safety and economic aspects, disaster preparedness. *Commencing date:* 4 September. *Duration:* 4 weeks. *Qualifications:* Bachelor's degree. *Last date for receipt of applications:* 1½ months before commencing date. *Fee:* \$US 1,600.

Host institution: CEC/AIT
P.O. Box 2754
Bangkok, Thailand

Laboratories for monitoring pollutants in metallurgy

General description: Setting up and development of laboratories attached to large-scale industrial enterprises, factory inspectorates, or labour institutes; use of recommended methods, apparatuses and procedures for the analysis of the most frequent pollutants in the heavy metal industry (or chemical industry). *Commencing date:* 15 October. *Duration:* 3 weeks. *Qualifications:* Chemists, engineers specialized in safety; industrial hygienists. English. *Last date for receipt of applications:* 30 June. *Fee:* \$US 1,000 or SwF 1,350.

Host institution: Institute of Occupational Health and Protection from Radiation
Deligradska 29
11000 Belgrade, Yugoslavia

Industrial design/Design industriel/Diseño industrial

Design of die-casting dies

General description: Casting techniques; moulding and casting process; die-casting machines and equipment; types of complete dies; types of die casting alloys; defects in die casting dies; finishing (trimming and inspection) of die-casting dies; safety. *Commencing date:* To be arranged. *Duration:* —. *Qualifications:* Degree or diploma in mechanical engineering; experience in the relevant field of tool design. *Last date for receipt of applications:* —. *Fee:* \$US 150 per week (including local plant visits).

Host institution: Central Institute of Tool Design
Balanagar
Hyderabad 500 037, India

Design of jigs and fixtures

General description: Pre-design analysis and fixture planning; fixture design procedures; locating principles (analytical and practical approach); principles of clamping, elastic and mechanical clamping elements; equalizers and centralizers; cutter guides; universal and automatic fixtures; welding and assembly fixtures; dimensional analysis; various types of jigs and fixtures with case-studies; CNC fixtures; economics. *Commencing date:* To be arranged. *Duration:* —. *Qualifications:* Degree or diploma in mechanical engineering with experience in the relevant field of tool design. *Last date for receipt of applications:* —. *Fee:* \$US 150 per week (including local plant visits).

Host institution: Central Institute of Tool Design
Balanagar
Hyderabad 500 037, India

Design of sheet metalworking tools

General description: Sheet materials; classification of presses; shearing dies, cam actuated dies, horn dies; compound dies, progressive dies; bending dies; drawing and forming dies; modern metal-forming techniques; design of press tools on simple blanking die or piercing die, progressive die, compound die, bending die, draw die.

Commencing date: To be arranged. *Duration:* —. *Qualifications:* Degree or diploma in mechanical engineering; experience in the relevant field of tool design. *Last date for receipt of applications:* —. *Fee:* \$US 150 per week (including local plant visits).

Host institution: Central Institute of Tool Design
Balanagar
Hyderabad 500 037, India

Furniture design

General description: Training programme for 4 to 6 participants covering: concepts and skills of industrial design as applied to furniture design problems; manufacturing technologies and industrial materials with a focus on metals plastics and composite materials; techniques of problem identification analysis; development of alternative concepts; prototype development and testing. *Commencing date:* July 1989.

Duration: 1 year. *Qualifications:* Engineers or architects; at least 3 years of experience in furniture manufacturing concern or furniture design/interior design. Candidates from design training institutions can also be considered. English. *Last date for receipt of applications:* December 1988. *Fee:* \$US 8,000 (including 2 field visits to furniture manufacturing centres).

Host institution: National Institute of Design
Paldi
Ahmedabad 380 007, India

Tool design

General description: Design practice; tool room practice; process planning; material specifications, testing and heat treatment; special cutting tools; gauges; jigs and fixtures; press tools; moulds for plastics; die-casting tools; metrology and measuring techniques; forging. *Commencing date:* 1 August. *Duration:* 1 year. *Qualifications:* Diploma in mechanical engineering. *Last date for receipt of applications:* 30 June. *Fee:* \$US 50 per week (including local plant visits).

Host institution: Central Institute of Tool Design
Balanagar
Hyderabad 500 037, India

Machine design and manufacturing

General description: Design practice as applied in industry; environmental considerations in product development and manufacture; design criteria applied in designing machines and machine parts; practical cases of detailed design work; analysis of production/manufacturing requirements; production techniques; project work on selected area of interest. *Commencing date:* 14 May 1990. *Duration:* 3 months. *Qualifications:* Degree or diploma in mechanical engineering. English and French. *Last date for receipt of applications:* 3 months before commencing date. *Fee:* \$US 4,000; \$US 1,500 for candidates who have obtained UNDP support through ARCEDEM.

Host institution: The African Regional Centre for Engineering Design and Manufacturing (ARCEDEM)
P.M.B. 19, U.I. Post Office
Km 9 Ibadan-Iwo Road
Ibadan, Nigeria

**Industrial information and documentation/Information et documentation
industrielles/Información y documentación industriales**

Information storage and retrieval systems

General description: Application of information processing techniques; use of information sources, provision of information services; information systems and services required for organizations; application of modern management ideas and techniques in the management of information systems and services; computer applications in information processing and dissemination. *Commencing date:* September. *Duration:* 8 weeks. *Qualifications:* University degree; information officers and documentalists. *English.* *Last date for receipt of applications:* 15 July. *Fee:* \$US 2,320 (including board and lodging while at Institute campus and travel cost of study visits).

Host institution: National Institute of Small Industry Extension Training
(NISIET)
Yousufguda
Hyderabad 500 045, India

Information systems analysis and design

General description: Overview of information structure; planning and organizing information systems; staffing and control; advances in information systems development; data management and data bases; microcomputer hardware, software and techniques; managing change; systems conversion and other common problems and pitfalls of computerized information systems; on-site case-studies. *Commencing date:* 19 June. *Duration:* 3 weeks. *Qualifications:* Bachelor's degree. *Last date for receipt of applications:* 1½ months before commencing date. *Fee:* \$US 1,200.

Host institution: CEC/AIT
P.O. Box 2754
Bangkok, Thailand

**Industrial planning and programming/Planificación et programmation
industrielles/Planeamiento y programación industrial**

Industrial planning

General description: Industrial planning as part of economic planning; industrialization strategies and policies and evaluation of Arab experience; industrial plan objectives and techniques; industrial planning (unit level); follow-up and evaluation of industrial plans. *Commencing date:* 20 May 1989. *Duration:* 4 weeks. *Qualifications:* University degree; 2 years of experience. *Last date for receipt of applications:* 2 months before commencing date. *Fee:* Free for Arab government nominees.

Host institution: The Arab Planning Institute (API)
P.O. Box 5834
Safat 13059, Kuwait

Industrial planning

General description: Industrial strategies and policies; main sectoral planning techniques; the industrial plan preparation and its data requirements; the main inputs needed to work out a project feasibility study, such as market analysis, technical, financial and economic analysis. *Commencing date:* First half of 1989, 1990. *Duration:* —.

Qualifications: Bachelor of Science in a related subject; working in the field of industrial planning; not above 40 years of age. Arabic. *Last date for receipt of applications:* End of December 1989. *Fee:* KD 250 per week; for participants from Institute's member States, fees are covered by Governments.

Host institution: The Arab Planning Institute (API)
P.O. Box 5834
Safat 13059, Kuwait

Production planning and control

General description: Planning and control of production by applying industrial engineering. *Commencing date:* To be arranged. *Duration:* 15 days. *Qualifications:* Bachelor of Science in textile technology; 3 to 5 years of experience as a master. English. *Last date for receipt of applications:* —. *Fee:* —.

Host institution: Cotton Textile Industry Research and Development Centre (CTIRDC)
GPO Box 479
Moulvi Tamizuddin
Khan Road
Karachi, Pakistan

Rural industrial and project development cycle

General description: National, regional and sectoral policies; industrialization policies; regional socio-economic survey; regional analysis; stages of project development cycle; market analysis; technical analysis; financial analysis. *Commencing date:* 28 August 1989. *Duration:* 1 month. *Qualifications:* Degree in business administration or equivalent; current or potential industrial extension officer; familiar with basic quantitative methods and analysis. English. *Last date for receipt of applications:* 3 months before commencing date. *Fee:* \$US 250 per week; free for government nominees.

Organizer: Thai Aid Sub-Division
Department of Technical and Economic Co-operation (DTEC)
962 Krung Kasem Road
Bangkok 10100, Thailand

Executing agency:
The SITE Project
Research Institute for Management Science (RVB)
P.O. Box 143
2600 Delft, Netherlands
and

Department of Industrial Promotion
Ministry of Industry
Rama 6 Road
Bangkok 10400, Thailand

Rural physical infrastructure development

General description: Planning and management; water supply and sanitation; road construction and maintenance; rural energy technologies. *Commencing date:* 9 October. *Duration:* 2 months. *Qualifications:* Bachelor's degree. *Last date for receipt of applications:* 1½ months before commencing date. *Fee:* \$US 4,000.

Host institution: CEC/AIT
P.O. Box 2754
Bangkok, Thailand

**Investment promotion and industrial financing/
Promotion des investissements et financement industriel/
Promoción de las inversiones y financiación industrial**

Financing small industry

General description: Policies and programmes for financing small industry in India; scrutinizing and appraising applications for loans; suitable systems for proper utilization of funds by the borrower to ensure prompt recovery. *Commencing date:* September. *Duration:* 8 weeks. *Qualifications:* 2 to 3 years of experience in a bank or a financial institution or a development corporation. English. *Last date for receipt of applications:* 15 July. *Fee:* \$US 2,320 (including board and lodging while at Institute campus and travel cost of study visits).

Host institution: National Institute of Small Industry Extension Training
(NISIET)
Yousufguda
Hyderabad 500 045, India

Appraisal and management of industrial projects

General description: Project stages are defined and followed by using different examples and case-studies to meet the requirement of each stage. Computer studies are also used. *Commencing date:* To be arranged. *Duration:* —. *Qualifications:* Bachelor of Science in a related subject; working in a field of project appraisal and management; not above 40 years of age. Arabic. *Last date for receipt of applications:* End of December. *Fee:* —.

Host institution: The Arab Planning Institute (API)
P.O. Box 5834
Safat 13059, Kuwait

Project feasibility study

General description: Practice in project feasibility study through field-work and case-studies. *Commencing date:* April 1989. *Duration:* 4 weeks. *Qualifications:* Project evaluators, promoters from financial institutions, industrial extension officers. English. *Last date for receipt of applications:* March 1989. *Fee:* N 2,220.

Host institution: Centre for Management Development (CMD)
PMB 21578
Ikeja, Nigeria

Project study preparation

General description: Market aspect; technical aspect; organization aspect; financial aspect; socio-economic aspect; project appraisal and evaluation; practicum: preparation of an actual project feasibility study. *Commencing date:* 12 July 1989. *Duration:* 8 weeks. *Qualifications:* Bachelor's degree or equivalent. English. *Last date for receipt of applications:* 12 May 1989. *Fee:* \$US 2,900.

Host institution: Institute for Small-Scale Industries
University of the Philippines
UP Campus
Diliman, Quezon City 1101, Philippines

Project management

General description: Project selection, planning and appraisal; project implementation; project management information systems; project organization and motivation;

project monitoring; project evaluation, control and termination; case-studies, field studies and workshop sessions. *Commencing date:* 17 April. *Duration:* 6 weeks. *Qualifications:* Bachelor's degree. *Last date for receipt of applications:* 1½ months before commencing date. *Fee:* \$US 2,400.

Host institution: CEC/AIT
P.O. Box 2754
Bangkok, Thailand

Project monitoring and evaluation

General description: Budgeting methods and cost estimation; network techniques for scheduling; resource allocation; project management information systems; design of control systems; project evaluation and auditing; completion and assimilation; post-project evaluation; case-studies. *Commencing date:* 1 May. *Duration:* 4 weeks. *Qualifications:* Bachelor's degree. *Last date for receipt of applications:* 1½ months before commencing date. *Fee:* \$US 1,600.

Host institution: CEC/AIT
P.O. Box 2754
Bangkok, Thailand

Project evaluation

General description: Preparation, appraisal and implementation of industrial projects from technical, economic and financial points of view. *Commencing date:* 20 September 1989. *Duration:* 6 weeks. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* \$US 550 per week.

Organizer: State Investment Bank
Mudafa Cad. 20
Bakanliklar
Ankara, Turkey

Venue: Riyadh, Saudi Arabia

Industrial projects in developing countries

General description: Preparation, evaluation, financing and implementation of industrial projects in developing countries. *Commencing date:* 19 September. *Duration:* 6 weeks. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* End of May. *Fee:* To be arranged.

Host institution: Institute of Industrial Economics
Maršala Tita 16
Belgrade, Yugoslavia

Maintenance and repair/Entretien et réparation/Mantenimiento y reparación

Repair and maintenance

General description: Repair and maintenance of laboratory equipment, modern instrumentation, and microcomputers (atomic absorption, spectrophotometers, arc spark and ICP spectrometers, monochromators, spectrum analysers). *Commencing date:* To be arranged. *Duration:* 1-8 weeks. *Qualifications:* Professional qualifi-

cations. English (possibly Arabic). *Last date for receipt of applications:* —. *Fee:* SwF 2,000-SwF 5,600.

Host institution: P & R Techconsult Ltd.
Association of Advanced Technical Services GmbH
P.O. Box 3885
Nicosia, Cyprus

Repair and maintenance of hospital and medical equipment

General description: Training for higher level hospital technicians leading to Specialized Technician Repair and Maintenance Certificate of Standard Hospital Laboratory Equipment. *Commencing date:* February 1989. *Duration:* 5 months. *Qualifications:* Entrance examination in technology and English. *Last date for receipt of applications:* December 1988. *Fee:* \$US 3,000.

Host institution: Regional Training Centre (RTC)
Higher Technical Institute
P.O. Box 2423
Nicosia, Cyprus

Repair and maintenance of hospital and medical equipment

General description: Training for higher level technicians leading to Specialized Technician Certificate in Medical Electronics. It deals with analogue and advance digital electronics and offers an appreciation of micro processor-based medical equipment. *Commencing date:* September 1989. *Duration:* 10 months. *Qualifications:* Entrance examination in technology and English. *Last date for receipt of applications:* June 1989. *Fee:* \$US 6,000.

Host institution: Regional Training Centre (RTC)
Higher Technical Institute
P.O. Box 2423
Nicosia, Cyprus

Design of spare parts for machinery repair and maintenance

General description: Study of the machine to be repaired; dismantling of the machine as far as necessary for repair; examination and assessment of the condition of the dismantled equipment; inspection, measurement and sketching of component to be replaced; preparation of design drawings of components; production of components in workshop; inspection and approval of fabricated components; assembly into the original machine; test run and adjustment as necessary. *Commencing date:* 24 September 1990. *Duration:* 3 months. *Qualifications:* Degree or diploma in mechanical engineering. English and French. *Last date for receipt of applications:* 3 months before commencing date. *Fee:* \$US 4,000; \$US 1,500 for candidates who have obtained UNDP support through ARCEDEM.

Host institution: The African Regional Centre for Engineering Design and Manufacturing (ARCEDEM)
P.M.B. 19, U.I. Post Office
Km 9, Ibadan-Iwo Road
Ibadan, Nigeria

Bio-medical equipment maintenance

General description: Fundamentals of bio-medical equipment; human anatomy and physiology; basic electronics; digital techniques; bio-medical instrumentation; microprocessors and interfacing techniques; advanced bio-medical equipment; fault

diagnosis techniques. *Commencing date:* January 1989, 1990. *Duration:* 1 year. *Qualifications:* Higher secondary school certificate or "A" level. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* \$US 150 per month.

Host institution: PETROMAN
ENAR Petrotech Services Ltd.
Musarrat Building, 1st floor
Sultan Ahmed Shah Road, Off: Shaheed-e-Millat Road
Karachi, Pakistan

Computer maintenance

General description: Digital techniques. microprocessor; microprocessor interfacing operating systems, compilers and assembly and language computer peripherals; computer fault diagnosis and servicing techniques. *Commencing date:* January 1989, 1990. *Duration:* 1 year. *Qualifications:* Higher secondary school certificate or "A" level. English. *Last date for receipt of application:* 1 month before commencing date. *Fee:* \$US 150 per month.

Host institution: PETROMAN
ENAR Petrotech Services Ltd.
Musarrat Building, 1st floor
Sultan Ahmed Shah Road, Off: Shaheed-e-Millat Road
Karachi, Pakistan

Maintenance and management of heavy equipment

General description: Repair of power train and undercarriage of bulldozers; graders, loaders and other heavy equipment as well as overhauling and engine performance tests of prime movers; also maintenance and repair of hydraulic components. *Commencing date:* January, April, August 1989, 1990. *Duration:* 95 days. *Qualifications:* Bachelor of Science in engineering; or Bachelor of Science in industrial education with at least 2 years of related work or teaching experience; or a 3-year technician course with 5 years of related experience. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* \$US 1,693 (board and lodging, \$US 430).

Organizer: Construction Manpower Development Foundation
Contact address:
Finman Building, 4th floor
Tordesillas Cor. Bautista Sts.
Salcedo Village, Makati, Metro Manila, Philippines

Venue: Construction Manpower Development Center
Bo. Salawag, Dasmarinas, Cavite, Philippines

Maintenance engineering

General description: Maintenance management; reliability; stock management; pumps and elevator plants; pneumatic and hydraulic systems; boiler and heat exchangers; labour legislation; enterprise organization; applied metrology; turbines; corrosion; fluids distribution system. *Commencing date:* October. *Duration:* 1 year. *Qualifications:* Mechanical and metallurgical engineers. Portuguese. *Last date for receipt of applications:* July. *Fee:* —.

Host institution: Instituto de Soldadura e Qualidade
Universidade Nova de Lisboa
Faculdade de Ciências e Tecnologia
Lisbon, Portugal

Electrical maintenance of cold rolling mills and finishing lines

General description: Safety rules for electrical maintenance of cold rolling mills; AC motors; DC motors; DC generators; power converters, controllers; five-stand tandem mill; batch annealing line; temper mills; tinning line; cold rolled shear lines; hot rolled shear lines; hot rolled slitting line. *Commencing date:* September. *Duration:* 3 months. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* —.

Host institution: Erdemir
Eregli Iron and Steel Plant
Eregli, Turkey

Electrical maintenance of hot rolling mills

Description: Safety rules for electrical maintenance of hot rolling mills; electrical equipment; basic motor types; motor bearings; lubrications; foundations, grouting and alignment; emergency care of damaged motors; planning, records and spare and renewal parts; current collecting devices; general bearing care; preventive maintenance test equipment. *Commencing date:* September. *Duration:* 3 months. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* —.

Host institution: Erdemir
Eregli Iron and Steel Plant
Eregli, Turkey

Maintenance of basic oxygen furnaces and continuous slab caster

Description: Safety rules for maintenance of basic oxygen furnaces and continuous slab caster; continuous slab caster; cooling water circuits; central hydraulic system; lubrication and central grease system; electrical maintenance; maintenance organization; spare part obtaining system; basic oxygen furnaces maintenance; furnace campaign maintenance; the start-up of the casters; steel surface cracks-measures; safety precautions; ingot teeming; ingot teeming theory and practices; ingot defects. *Commencing date:* September. *Duration:* 3 months. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* —.

Host institution: Erdemir
Eregli Iron and Steel Plant
Eregli, Turkey

Mechanical maintenance of cold rolling mill and finishing lines

General description: Safety rules for mechanical maintenance of cold rolling mills and finishing lines; maintenance of lubrications systems; maintenance of hydraulic systems; maintenance of acid pickling lines; maintenance of tandem mill; maintenance of alkali and annealing lines; maintenance of cold and hot shear lines; maintenance of electrolytic tinning line; maintenance of temper mills. *Commencing date:* September. *Duration:* 3 months. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* —.

Host institution: Erdemir
Eregli Iron and Steel Plant
Eregli, Turkey

Mechanical maintenance of hot rolling mills

General description: Safety rules for mechanical maintenance of hot rolling mills; the spare-part and material needs; maintenance of machinery in general; maintenance

of downcomer machinery; maintenance of mill machinery; maintenance of transfer tables and auxiliaries; maintenance and operation of hydraulic and pneumatic equipment; maintenance of slab furnace; fault detection and repair; evaluation of maintenance work. *Commencing date:* September. *Duration:* 3 months. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* —.

Host institution: Erdemir
Eregli Iron and Steel Plant
Eregli, Turkey

Management and industrial administration/Gestion et administration industrielle/ Gestión y administración industrial

Main supervisory areas

General description: Utilization of equipment and facilities; maintenance management; materials management; office supervision; purchasing; safety and health. *Commencing date:* To be arranged. *Duration:* 10 weeks. *Qualifications:* Supervisor with high school or college education. English. *Last date for receipt of applications:* —. *Fee:* \$L 75.

Host institution: Agricultural and Industrial Training Bureau (AITB)
P.O. Box 9016
Monrovia, Liberia

Supervising employees

General description: Leadership; informal groups and organizations; staffing; motivating employees; job evaluation; performance appraisal; training and development; behaviour in supervision; industrial relations; maintaining discipline and morale; complaints and grievances. *Commencing date:* To be arranged. *Duration:* 14 weeks. *Qualifications:* Supervisor with high school or college education. English. *Last date for receipt of applications:* —. *Fee:* \$L 75.

Host institution: Agricultural and Industrial Training Bureau (AITB)
P.O. Box 9016
Monrovia, Liberia

Supervisory techniques

General description: The organization and the supervision; principles of supervision; planning; directing and co-ordinating; controlling work; finance and costs control; problem analysis and decision-making; communications and records; management of time; individual and group discussions. *Commencing date:* To be arranged. *Duration:* 12 weeks. *Qualifications:* Supervisor with high school or college education. English. *Last date for receipt of applications:* —. *Fee:* \$L 75.

Host institution: Agricultural and Industrial Training Bureau (AITB)
P.O. Box 9016
Monrovia, Liberia

Advanced management

General description: The course is designed to meet the needs of senior management educators and trainers responsible for human-resource-development activities. *Commencing date:* To be arranged. *Duration:* 4 weeks. *Qualifications:* Top and

senior management educators and trainers. *Last date for receipt of applications:* 2 months before commencing date. *Fee:* N 2,585.

Host institution: Centre for Management Development (CMD)
PMB 21578
Ikeja, Nigeria

Management consultancy

General description: Essential principles of management consultancy; upgrading skills in areas of production, finance, personnel and marketing; scientific diagnosis of managerial problems and solutions. *Commencing date:* August 1989. *Duration:* 6 weeks. *Qualifications:* Senior and middle managers; practising and aspiring consultants with a master's degree. *Last date for receipt of applications:* April 1989. *Fee:* N 2,100.

Host institution: Centre for Management Development (CMD)
PMB 21578
Ikeja, Nigeria

Plant training of engineers in chemical, electrical, mechanical and instrument disciplines

General description: This course is for middle- and lower-level executives. Training is conducted at one of the large nitrogenous or phosphatic fertilizer plants of the National Fertilizer Corporation. The basic aim is to improve managerial skills of executives in order to manage capital and human resources more efficiently. Class-room training includes lectures and discussions on particular processes while on-the-job training is carried out at plant where trainees are actively involved and share experience of their counterparts. *Commencing date:* To be arranged. *Duration:* 3 months. *Qualifications:* Professional qualifications. Eng:sh. *Last date for receipt of applications:* —. *Fee:* \$US 500 per month (including board and lodging).

Host institution: National Fertilizer Corporation of Pakistan (Pvt.) Ltd.
Alfalah Building
Shahrah-e-Quaid-e-Azam
Lahore, Pakistan

Management consultancy

General description: Economics, business and statistics for consultants; management concepts, related tools and techniques in consulting; enterprise planning and development; management consultancy; practicum: consultancy practice. *Commencing date:* 7 July 1989. *Duration:* 20 weeks. *Qualifications:* Bachelor's degree or equivalent. English. *Last date for receipt of applications:* 9 June 1989. *Fee:* \$US 4,100.

Host institution: Institute for Small-Scale Industries
University of the Philippines
UP Campus
Diliman, Quezon City 1101, Philippines

Diploma course in management

General description: Labour jurisprudence; commercial law; quality, production, finance, commercial and personnel management; new technologies; standardization; statistics; computing research; operational research. *Commencing date:* October. *Duration:*

9 months. *Qualifications:* Bachelor's degree in engineering and management. *Last date for receipt of applications:* July. *Fee:* —.

Host institution: Instituto de Soldadura e Qualidade
Universidade Nova de Lisboa
Faculdade de Ciências e Tecnologia
Lisbon, Portugal

Financial management for corporate development

General description: Computers and financial management; financial analysis and reporting; working capital management and cash management; capital budgeting; interactions of investment and financial decisions; financial markets; mergers and acquisitions. *Commencing date:* February-May 1989, 1990. *Duration:* 16 days. *Qualifications:* Portuguese and English. *Last date for receipt of applications:* January 1989, 1990. *Fee:* —.

Host institution: CIFAG
Avenida Júlio Dinis 11
1000 Lisbon, Portugal

Industrial engineering

General description: High-level course covering: marketing; work study; automation; maintenance; quality control; stocks management; value analysis; energy management; industrial security; informatics applications; information management systems; cost accounting; management control; project evaluation; decision-making models; strategy of the company; production control; industrial and human relations. *Commencing date:* 2 January 1989. *Duration:* 7 months. *Qualifications:* Advanced university degree in engineering, economics or business administration; under 25 years of age. Portuguese. *Last date for receipt of applications:* 16 December 1988. *Fee:* Esc 240,000.

Host institution: Centro de Formação Técnica
Laboratório Nacional de Engenharia e Tecnologia Industrial
Azinhaga dos Lameiros à Estrada do Paço do Lumiar
1699 Lisbon Codex, Portugal

Management for junior executives

General description: Environment analysis and management impact; marketing management; finance; technology and logistics; human resources management; business game. *Commencing date:* February-April, October-December 1989, 1990. *Duration:* 20 days. *Qualifications:* Portuguese. *Last date for receipt of applications:* January, September 1989, 1990. *Fee:* —.

Host institution: CIFAG
Avenida Júlio Dinis 11
1000 Lisbon, Portugal

Management for senior executives

General description: Strategic management; marketing and strategy; strategic management of human resources; strategic management of technology; strategy, finance and value creation. *Commencing date:* October, November 1989, 1990. *Duration:* —. *Qualifications:* Portuguese. *Last date for receipt of applications:* September 1989, 1990. *Fee:* —.

Host institution: CIFAG
Avenida Júlio Dinis 11
1000 Lisbon, Portugal

Managing human resources

General description: Job description and analysis; recruitment, selection and placement; new forms of organization; training; diagnosis of needs, planning and evaluation; technology evolution and qualifications of local human resources; negotiation and conflicts management; strategic management of human resources. *Commencing date:* February-May 1989, 1990. *Duration:* 15 days. *Qualifications:* Portuguese. *Last date for receipt of applications:* January 1989, 1990. *Fee:* —.

Host institution: CIFAG
Avenida Júlio Dinis 11
1000 Lisbon, Portugal

Industrial management

General description: Modern management methods and techniques applicable to industrial enterprises in developing countries. Practical exercises and case-studies. *Commencing date:* 8 May 1989. *Duration:* 6 weeks. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* —.

Organizer: Qatar General Petroleum Corporation (QGPC)
P.O. Box 3212
Doha, Qatar

Venue: Riyadh, Saudi Arabia

Modern methods and techniques of management of industrial and agro-industrial enterprises

General description: Diagnosis/analysis: a tool for improving enterprise organization and management; work and production organization and management; informatics for managers; marketing methods and techniques; psycho-sociology and ergonomics for managers; organization and management of human resources; economic/financial analysis for managers. *Commencing date:* April, August 1989. *Duration:* 12 weeks. *Qualifications:* Professional qualifications. English or French. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* \$US 540 per week (including accommodation and meals).

Host institution: International Centre for Management Development (CEPECA)
Otopeni Soseana Odâi no. 20
Bucharest, Romania

General management and extension techniques for consultancy

General description: General management for small-scale industries; integrated management; the consultant-client relationship; data collection and problem-solving techniques; communication and report writing; field-work; consulting in various areas of management. *Commencing date:* 22 May 1989. *Duration:* 6 weeks. *Qualifications:* Candidates should be nominated by their Governments and be either a current or a potential industrial extension officer possessing a degree in business administration or its equivalent and have creditable extension work experience.

English. *Last date for receipt of applications:* 3 months before commencing date.
Fee: \$US 250 per week; free for government nominees.

Organizer: Thai Aid Sub-Division
Department of Technical and Economic Co-operation (DTEC)
962 Krung Kasem Road
Bangkok 10100, Thailand
Executing agency:
The SITE Project
Research Institute for Management Science (RVB)
P.O. Box 143
2600 Delft, Netherlands
and
Department of Industrial Promotion
Ministry of Industry
Rama 6 Road
Bangkok 10400, Thailand

Managing rural development

General description: The course aims to provide planners and implementers of rural development programmes and projects useful insights on how to induce viable and sustainable rural development. With its two-pronged objective of upgrading both the strategic and the operational management skills of participants, the course is envisaged to produce better informed, more capable and highly motivated development agents. *Commencing date:* 3 July. *Duration:* 4 weeks. *Qualifications:* Bachelor's degree. *Last date for receipt of applications:* 1½ months before commencing date. *Fee:* \$US 2,000.

Host institution: CEC/AIT
P.O. Box 2754
Bangkok, Thailand

Marketing and financial management

General description: Marketing research and information; industrial marketing; work visits; financial analysis, managerial and cost accounting, planning and control and management of working capital. *Commencing date:* 18 June 1990. *Duration:* 8 weeks. *Qualifications:* Candidates should be nominated by their Governments and be either a current or a potential industrial extension officer possessing a degree in business administration or its equivalent and familiar with basic quantitative methods and analysis. English. *Last date for receipt of applications:* 3 months before commencing date. *Fee:* \$US 250 per week; free for government nominees.

Organizer: Thai Aid Sub-Division
Department of Technical and Economic Co-operation (DTEC)
962 Krung Kasem Road
Bangkok 10100, Thailand
Executing agency:
The SITE Project
Research Institute for Management Science (RVB)
P.O. Box 143
2600 Delft, Netherlands
and
Department of Industrial Promotion
Ministry of Industry
Rama 6 Road
Bangkok 10400, Thailand

Production management

General description: Production planning and control, recording techniques, plant location and layout, material handling, inventory control, quality control, maintenance. *Commencing date:* 26 November 1990. *Duration:* 4 weeks. *Qualifications:* Candidates should be nominated by their Governments and be either a current or a potential industrial extension officer possessing a degree in business administration or its equivalent and be familiar with basic quantitative methods and analysis. English. *Last date for receipt of applications:* 3 months before commencing date. *Fee:* \$US 250 per week; free for government nominees.

Organizer: Thai Aid Sub-Division
Department of Technical and Economic Co-operation (DTEC)
962 Krung Kasem Road
Bangkok 10100, Thailand

Executing agency:
The SITE Project
Research Institute for Management Science (RVB)
P.O. Box 143
2600 Delft, Netherlands
and
Department of Industrial Promotion
Ministry of Industry
Rama 6 Road
Bangkok 10400, Thailand

Technology orientation for development managers

General description: Technology forecasting and impact assessment; appropriate technology: water supply and sanitation, rural road construction and maintenance, rural energy technologies, low-cost housing and construction, farming technology and its transfer; communication and management skills; study visits and field trips. *Commencing date:* 1 May. *Duration:* 26 days. *Qualifications:* Bachelor's degree. *Last date for receipt of applications:* 1½ months before commencing date. *Fee:* \$US 2,000.

Host institution: CEC/AIT
P.O. Box 2754
Bangkok, Thailand

Marketing and export promotion/Marketing et promotion des exportations/ Comercialización y promoción de las exportaciones

Marketing management

General description: Decision-making in marketing; financial tools for the marketing manager; marketing management system; formulation of strategy in marketing; marketing-mix; marketing planning and control; organizing; marketing audit. *Commencing date:* February-May 1989, 1990. *Duration:* 16 days. *Qualifications:* Portuguese and French. *Last date for receipt of applications:* January 1989, 1990. *Fee:* —.

Host institution: CIFAG
Avenida Júlio Dinis 11
1000 Lisbon, Portugal

**Quality control and standardization/Contrôle de la qualité et normalisation/
Control de calidad y normalización**

Diploma course in quality engineering

General description: Applied statistics; metrology; applied computing management; statistical quality control; value analysis; reliability; quality inspection. *Commencing date:* October (Lisbon); January (Porto). *Duration:* 9 months. *Qualifications:* Bachelor's degree in engineering. Portuguese. *Last date for receipt of applications:* July (Lisbon); September (Porto). *Fee:* —.

Host institution: Instituto de Soldadura e Qualidade
Universidade Nova de Lisboa
Faculdade de Ciências e Tecnologia
Lisbon, Portugal

Measurement and quality in metalworking industry

General description: Fundamentals of measurement; methods and data processing; laboratory work and visits to plants. *Commencing date:* 15 June, 15 September. *Duration:* —. *Qualifications:* Mechanical engineers or technicians. English or French. *Last date for receipt of applications:* 15 April, 1 June. *Fee:* \$US 1,500.

Organizer: Mašinski fakultet u Sarajevu
(School of Mechanical Engineering)
Laboratorij za proizvodnu mjernu tehniku
Omladinsko šetalište bb
71000 Sarajevo, Yugoslavia
in collaboration with
UNIS Institut
Trščanska 7
71000 Sarajevo, Yugoslavia

**Small-scale industries and entrepreneurship/Petites industries et entrepreneurs/
Pequeñas industrias y empresarios**

Promotion of small industry in developing countries

General description: Develop the required analytical skills for identifying industrial opportunities and in making project analysis; share the Indian experience in the field of small industry development and promotion, and in other sub-areas of decentralized sector; impart promotional techniques for the accelerated development of small industries. *Commencing date:* September. *Duration:* 12 weeks. *Qualifications:* Personnel associated with policy formulation, promotion and development of cottage and small industries. English. *Last date for receipt of applications:* 15 July. *Fee:* \$US 3,250 (including board and accommodation).

Host institution: National Institute of Small Industry Extension Training
(NISIET)
Yousufguda
Hyderabad 500 045, India

Small-industry management consultancy

General description: Function areas of industrial management; analytical techniques to identify the real problems and evaluate alternative solutions; general business diagnosis and diagnosis of the problems in the functional areas in a small industry;

possible contribution to the development of industrial management consultancy services in the participant's country. *Commencing date:* September. *Duration:* 12 weeks. *Qualifications:* Management consultants, from governmental and semi-governmental organizations, management teachers/trainers engaged in training or practising consultancy. *Las: date for receipt of applications:* 15 July. *Fee:* \$US 3,250 (including board and lodging while at Institute campus and travel cost of study visits).

Host institution: National Institute of Small Industry Extension Training
(NISJET)
Yousufguda
Hyderabad 500 045, India

Handicraft for home industries

General description: Basketry, loom-weaving, dressmaking, stuffed-toys making and flower making. *Commencing date:* To be arranged. *Duration:* 55 working days. *Qualifications:* High school graduates. *Last date for receipt of applications:* December 1988. *Fee:* —.

Host institution: Department of Trade and Industry
Cottage Industry
Technology Center
20 Russet Street
SSS Village, Marikina, Metro Manila, Philippines

Industrial control and instrumentation for small- and medium-size enterprises

General description: Applications and practice of automation and instrumentation particularly in the fields of pneumatics, electro-pneumatics, digital electronics control, programmable logic controller and process control. The course consists of the following modules: general programme; industrial automation; industrial instrumentation and process control; integrated plant exercises; plant/industry visits; laboratory simulation of case exercises. *Commencing date:* 28 September 1989. *Duration:* 6 weeks. *Qualifications:* Engineers, industrial technicians. English. *Last date for receipt of applications:* 28 July 1989. *Fee:* \$US 2,500.

Host institution: Institute for Small-Scale Industries
University of the Philippines
UP Campus
Diliman, Quezon City 1101, Philippines

Project evaluation appraisal and monitoring of small- and medium-size enterprise projects

General description: Introductory module; evaluation of investment projects; project appraisal of investment projects; monitoring and documentation of investment projects. *Commencing date:* 3 October 1989. *Duration:* 6 weeks. *Qualifications:* Bachelor's degree or equivalent. English. *Last date for receipt of applications:* 3 July 1989. *Fee:* \$US 2,500.

Host institution: Institute for Small-Scale Industries
University of the Philippines
UP Campus
Diliman, Quezon City 1101, Philippines

Small-industry information management

General description: Introductory module on information management; user's study and information needs; information processing, storage and retrieval; information services; information marketing and networking; organizing an information centre; information system audit and design. *Commencing date:* 12 July 1989. *Duration:* 8 weeks. *Qualifications:* Bachelor's degree or equivalent. English. *Last date for receipt of applications:* 12 May 1989. *Fee:* \$US 2,900.

Host institution: Institute for Small-Scale Industries
University of the Philippines
UP Campus
Diliman, Quezon City 1101, Philippines

Small business management

General description: Getting started in small business; feasibility analysis; strategic business planning; market analysis; product planning; pricing and promotion strategies; financial statement analysis; financial planning; planning for physical facilities of small business; personnel management; information management in office; credit and collection; taxes and the law; salesmanship. *Commencing date:* 8 August. *Duration:* 4 weeks. *Qualifications:* Bachelor's degree. *Last date for receipt of applications:* 1½ months before commencing date. *Fee:* \$US 1,200.

Host institution: CEC/AIT
P.O. Box 2754
Bangkok, Thailand

Trainer development/Formation de formateurs/ Perfeccionamiento de profesionales de capacitación

Metodología de desarrollo de directivos para las entidades de formación profesional

Descripción general: La institución, su historia y su realidad; "sensibilización" para el autodesarrollo; instrumentación para el desarrollo institucional por medio de la creación de grupos de proceso; núcleos de educación continua. *Fecha de iniciación:* Para ser acordado. *Duración:* 120 horas. *Calificaciones:* Formación superior; experiencia de por lo menos dos años en actividades relacionadas como entrenamiento y desarrollo de recursos humanos de entidades de formación profesional. *Fecha límite para la recepción de las solicitudes:* Por lo menos, dos meses antes del inicio de la actividad. *Derechos de inscripción:* Para ser acordado.

Institución huésped: Departamento Nacional do Serviço Nacional de Aprendizagem Industrial
Divisão de Desenvolvimento de Recursos Humanos
Av. Nilo Peçanha 50, sala 2812
Centro, Rio de Janeiro, Brasil

Communication for development

General description: The course is for 10 participants and covers: basic skills in video production, audio-visual techniques, animation techniques of inexpensive reproduction, such as silk screen; communication methodology and practice: developing a design brief, creating aids relevant to specific subjects and regions ranging from low-cost reproduction techniques to the use of mass media. *Commencing date:* November 1989. *Duration:* 6 weeks. *Qualifications:* English. *Last date for receipt of*

applications: May 1989. **Fee:** \$US 600 (board and lodging approximately \$US 40 per day).

Host institution: National Institute of Design
Paldi
Ahmedabad 380 007, India

Entrepreneurship for small trainers/providers

General description: The participants will: develop appreciation of the entrepreneurship development process; learn designing and conducting of entrepreneurial motivation training for prospective entrepreneurs; acquire skills of identification of potential entrepreneurs and use appropriate selection techniques/tools for locating potential entrepreneurs; understand the dynamics of enterprise launching covering the ability of scanning opportunity, project formulation and appraisal and mobilizing resources; gain capability of guiding first generation entrepreneurs in managing their enterprises successfully; develop insight in planning and executing support to the prospective entrepreneurs in setting up their enterprises; be able to diagnose and counsel existing entrepreneurs and small business owners for modernization, diversification/expansion and rehabilitation of their ongoing units. **Commencing date:** 16 January 1989. **Duration:** 8 weeks. **Qualifications:** English. **Last date for receipt of applications:** —. **Fee:** \$US 2,470.

Host institution: National Institute for Entrepreneurship and
Small Business Development
NSIC-PDTC Campus
OKLA Industrial Estate
New Delhi 110 020, India

Product design

General description: The programme, which is for 4 candidates only, is tailored to the needs of design teachers and trainers for a developing economy. It covers: internationally accepted design principles; methodology of problem solving process; the process of identifying and analysing a problem of exploring alternatives and arriving at a synthesis relevant to a particular situation; ways and means of communicating the solutions to clients or students. **Commencing date:** July 1989. **Duration:** 1 year. **Qualifications:** At least 3 years of experience in teaching in design or design related disciplines. English. **Last date for receipt of applications:** March 1989. **Fee:** \$US 5,000 per year.

Host institution: National Institute of Design
Paldi
Ahmedabad 380 007, India

Training methods and skills

General description: The dynamics of training/learning process; choice and use of training methods; planning of a curriculum; development of personal and role effectiveness as a trainer. **Commencing date:** October. **Duration:** 9 weeks. **Qualifications:** Trainers in management and development organizations, industrial establishments, consultancy firms and education institutions. English. **Last date for receipt of applications:** 15 August. **Fee:** \$US 2,555 (including board and lodging while at Institute campus and travel cost of study visits).

Host institution: National Institute of Small Industry Extension Training
(NISJET)
Yousufguda
Hyderabad 500 045, India

Trainers' development

General description: The objective of the course is to enable participants to determine trainers' major roles, identify training needs at individual/organizational level, develop training objectives, use a variety of training methods, design curricula, identify problems of adult learning, conduct such a course, evaluate training effectiveness. **Commencing date:** April 1989. **Duration:** 5 weeks. **Qualifications:** Executives responsible for management and supervisory training in public and private organizations, management educators and trainers in institutions of higher learning. **Last date for receipt of applications:** February 1989. **Fee:** N 1,960.

Host institution: Centre for Management Development (CMD)
PMB 21578
Ikeja, Nigeria

Training of trainers

General description: A 2-part seminar held in Nigeria and France, which covers identification of training needs and curriculum development; training techniques; knowledge and practice of group animation. Industrial visits; individual projects; promotion of cross-cultural management. **Commencing date:** May-June 1989. **Duration:** 5 weeks. **Qualifications:** Management educators and trainers in company training centres, business schools, banks, universities, institutes and colleges of higher education. **Last date for receipt of applications:** March 1989. **Fee:** N 3,000.

Organizer: Centre for Management Development (CMD)
PMB 21578
Ikeja, Nigeria
in collaboration with
ISSEC, France

Entrepreneurial motivation training

General description: Entrepreneurship and entrepreneurial motivation; the training process in entrepreneurial motivation training; practicum: preparation of games. **Commencing date:** 22 June 1989. **Duration:** 4 weeks. **Qualifications:** Bachelor's degree or equivalent. **Last date for receipt of applications:** 22 April 1989. **Fee:** \$US 2,600.

Host institution: Institute for Small-Scale Industries
University of the Philippines
UP Campus
Diliman, Quezon City 1101, Philippines

Entrepreneurship development for trainers

General description: Introductory module to entrepreneurship development; small enterprise management; skills required of a trainer as a designer/consultant; skills required of a trainer as a session leader; entrepreneurship training programme management; practicum: back home action plan. **Commencing date:** 6 September 1989. **Duration:** 10 weeks. **Qualifications:** Bachelor's degree or equivalent. English. **Last date for receipt of applications:** 6 July 1989. **Fee:** \$US 3,500.

Host institution: Institute for Small-Scale Industries
University of the Philippines
UP Campus
Diliman, Quezon City 1101, Philippines

Management of training centres

General description: Systematic manpower development; corporate analysis; training plan; job training needs; job analysis; cost estimate/budget of training plan and programmes; financial control; hiring of consultants; improving communication skills; office management related to the use of computers. *Commencing date:* 17 July. *Duration:* 6 weeks. *Qualifications:* Bachelor's degree. *Last date for receipt of applications:* 1½ months before commencing date *Fee:* \$US 2,250.

Host institution: CEC/AIT
P.O. Box 2754
Bangkok, Thailand

Occupational safety/Prévention des accidents du travail/ Seguridad profesional

Safety engineering

General description: Safety management and environmental science and engineering; quality assurance; acoustic and noise control ventilation; materials handling safety; legislation; industrial relations and safety audits. *Commencing date:* May. *Duration:* 9 months. *Qualifications:* Bachelor of Science in engineering. Portuguese. *Last date for receipt of applications:* February. *Fee:* —.

Organizer: Instituto de Soldadura e Qualidade
in collaboration with
Direcção-Geral de Higiene e Segurança do Trabalho
Universidade Nova de Lisboa
Faculdade de Ciências e Tecnologia
Lisbon, Portugal

Industrial safety

General description: Plant safety; injury sources and causes; industrial psychology; elements of effective safety programme; electrical hazards; safety organization; safety education and training; occupational health hazards; personal protective equipment; fire prevention and protection. *Commencing date:* September. *Duration:* 3 months. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* —.

Host institution: Erdemir
Eregli Iron and Steel Plant
Eregli, Turkey

Chapter III. Other training opportunities and short courses

Chapitre III. Autres possibilités de formation et sessions d'études de brève durée

Capítulo III. Otras oportunidades de capacitación y cursos cortos

A. DEVELOPED COUNTRIES AND AREAS/ PAYS ET ZONES DÉVELOPPÉS/ PAÍSES Y ZONAS DESARROLLADOS

Iron and steel industry

General description: Short courses on: technology of iron- and steelmaking (levels I, II and III); production and maintenance in iron- and steelmaking shops, including continuous casting; maintenance management; quality control in steelmaking and rolling; material management; electro-mechanical maintenance in rolling mills; computer applications; financial management; energy conservation concepts. *Commencing date:* Throughout the year. *Duration:* 1 week. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* 6 weeks before commencing date. *Fee:* S 25,950-S 27,700 (including lunch and in-plant transport).

Host institution: Voest-Alpine Industrial Services Corp. Ltd.
P.O. Box 2
Krempfstrasse 5
4020 Linz, Austria

Architecture et matériaux de construction en PVD

Description générale : Introduction : étude de cas; rapports architectes : utilisation; rapports architectes : entreprises; rapports architectes : administrations. *Début du cours :* —. *Durée :* 60 heures. *Qualifications :* Français. *Dernier délai pour la soumission des candidatures :* —. *Droit d'inscription :* FB 15 000.

Organisme hôte : Centre interuniversitaire de formation permanente (CIFoP)
1B, avenue G. Michel
6000 Charleroi, Belgique

Conception et fabrication assistée par ordinateur de pièces mécaniques, etc.

Description générale : Conception et fabrication assistée par ordinateur de pièces mécaniques, d'ouvrages d'art, etc. *Début du cours :* Toute l'année sauf en juillet et août. *Durée :* —. *Qualifications :* Qualifications professionnelles. Français. *Dernier délai pour la soumission des candidatures :* —. *Droit d'inscription :* A arranger.

Organisme hôte : Centre de coopération et de recherche pédagogique et technique (CREPT)
Université du travail Paul Pastur
1, boulevard Roullier
6000 Charleroi, Belgique

Corrosion

Description générale : Théorie et techniques de laboratoire. *Début du cours* : A arranger.

Durée : 1 semaine. *Qualifications* : Anglais, français. *Dernier délai pour la soumission des candidatures* : —. *Droit d'inscription* : —.

Organisme hôte : Cebelcor
Avenue Paul Héger, Grille 2
1050 Bruxelles, Belgique

Formation à la gestion de la qualité

Description générale : Introduction générale à la qualité; concepts d'assurance et de gestion de la qualité; cercles de qualité; analyse de la valeur; coût de la qualité; approches statistiques. *Début du cours* : —. *Durée* : 20 demi-journées. *Qualifications* : Français. *Dernier délai pour la soumission des candidatures* : A déterminer. *Droit d'inscription* : FB 15 000.

Organisme hôte : Centre universitaire de Charleroi (CUNIC)
1B, avenue G. Michel
6000 Charleroi, Belgique

Formation des contremaîtres et des ingénieurs à l'élaboration des modes opératoires

Description générale : Connaissances théoriques et techniques nécessaires à l'élaboration des modes opératoires, ces derniers étant non seulement la clé de l'utilisation correcte de l'équipement et de sa longévité mais également l'outil de base de la formation de ces contremaîtres et ingénieurs. *Début du cours* : Toute l'année sauf de juillet au 15 septembre. *Durée* : —. *Qualifications* : Ingénieur ou contremaître possédant une expérience de plusieurs années dans sa spécialisation, son secteur d'activité ou sa profession. Français, anglais. *Dernier délai pour la soumission des candidatures* : 3 mois avant la date de début du cours. *Droit d'inscription* : A arranger.

Organisme hôte : International Executives Benelux SA (INTEX)
5, rue de la Science
1040 Bruxelles, Belgique

Formation d'ingénieurs

Description générale : Cet enseignement est conçu dans une vue très large dépassant le sens restreint de "formation" classique. Il vise plus spécialement le transfert de méthodes, le transfert de technologies et aussi de know-how. *Début du cours* : Toute l'année sauf de juillet au 15 septembre. *Durée* : —. *Qualifications* : Ingénieurs possédant une certaine expérience dans leur spécialisation. Français. *Dernier délai pour la soumission des candidatures* : 3 mois avant la date de début du cours. *Droit d'inscription* : A arranger.

Organisme hôte : International Executives Benelux SA (INTEX)
5, rue de la Science
1040 Bruxelles, Belgique

Gestion de production

Description générale : Statistiques de ventes et de production; prévision de production; planning et contrôle de la production; contrôle des stocks; stockage et maintenance; productivité; contrôle budgétaire; prix de revient industriel; études de marchés. *Début du cours* : A arranger. *Durée* : —. *Qualifications* : Minimum baccalauréat ou

niveau équivalent. Français, anglais, néerlandais, allemand. *Dernier délai pour la soumission des candidatures* : —. *Droit d'inscription* : A arranger.

Organisme hôte : Helping SA
38, avenue Montjoie
1180 Bruxelles, Belgique

Programmable components (PC) operation and repair

General description: Programmable components; training MS DOS; repair; installation. *Commencing date*: To be arranged. *Duration*: 5-12 days. *Qualifications*: Licentiate or engineer. English. *Last date for receipt of applications*: December 1988. *Fee*: BF 30,000-BF 130,000.

Host institution: BIKIT
J. Plateaustraat 22
9000 Gent
Belgium

Technique du commerce extérieur

Description générale : Gestion d'entreprises; formation en langues; gestion internationale; stage en entreprise. *Début du cours* : A arranger. *Durée* : —. *Qualifications* : Les demandeurs d'emploi âgés de moins de 25 ans; le programme peut être facilement adapté à tout public motivé. *Dernier délai pour la soumission des candidatures* : —. *Droit d'inscription* : —.

Organisme hôte : Centre interuniversitaire de formation permanente (CIFoP)
1b, avenue G. Michel
6000 Charleroi, Belgique
en collaboration avec
International Trade Institute (ITI)
2, avenue Broqueville, boîte 7
1150 Bruxelles, Belgique

Integrated exploitation of non-metallic sorbents

General description: Local industrial minerals of sorbent type; bentonite, perlite, diatomite, tuff for industries, agriculture and environmental protection. *Commencing date*: April 1989. *Duration*: 2 weeks. *Qualifications*: University degree or experience in the field. English. *Last date for receipt of applications*: 31 December 1988. *Fee*: —.

Host institution: UNIDO
Czechoslovakia Joint Programme
Non-metallic Industries, Pilsen
Pražská 12
305 11 Pilsen, Czechoslovakia

Maintenance management in iron and steel industry

General description: Organization of the management of maintenance, system analysis, design and technology, principles of computer hardware and software; planning of preventive maintenance and repairs including spare parts and material requirements, capacity planning and scheduling; computerized maintenance management on personal computers; demonstrations and industrial visits. *Commencing date*: March 1989. *Duration*: 2 weeks. *Qualifications*: Managers/planners/engineers;

university degree in engineering or management; general experience in maintenance or computer applications. English. *Last date for receipt of applications:* 31 January 1989. *Fee:* —.

Host institution: UNIDO
Czechoslovakia Joint Programme for Co-operation
Metallic Industries
INORGA Institute
Letenská 17
118 06 Prague 1, Czechoslovakia

Non-waste technologies and environmental control

General description: Influence of industrial technologies on environment; industrial wastes and waste recycling technologies; secondary raw materials and energy recovery; environmental management; low-waste and non-waste technologies; treatment of toxic wastes; municipal solid wastes processing; information and control systems for environment; advanced technology development trends. *Commencing date:* October 1990. *Duration:* 2 weeks. *Qualifications:* Industrial, environment or chemical engineers; at least 3 years of experience in environmental control. English. *Last date for receipt of applications:* 30 June 1990. *Fee:* —.

Host institution: UNIDO
Czechoslovakia Joint Programme for Co-operation
Metallic Industries
INORGA Institute
Letenská 17
118 06 Prague 1, Czechoslovakia

Promotion and development of advanced ceramics in developing countries

General description: The potential of advanced ceramics for the use in developing countries and for exports; areas of concern in the field; evaluation of possibilities of international co-operation to develop and introduce new advanced technologies for the production of low-cost materials. *Commencing date:* May 1990. *Duration:* 2 weeks. *Qualifications:* University degree or relevant experience. English. *Last date for receipt of applications:* 31 January 1990. *Fee:* —.

Host institution: UNIDO
Czechoslovakia Joint Programme for Co-operation
Non-metallic Industries
Pražská 12
305 11 Pilsen, Czechoslovakia

Transfer of know-how in industry

General description: Production; quality control; maintenance, marketing, financial and personnel management; counterpart training. *Commencing date:* June 1989. *Duration:* 2 weeks. *Qualifications:* Trainers, teachers, instructors and consultants. English. *Last date for receipt of applications:* 14 April 1989. *Fee:* \$US 3,500.

Host institution: Blanz Corporate Advisers Oy
Höyläämötie 5
00380 Helsinki, Finland

Contrôle industriel et qualité, normalisation et analyse de la valeur

Description générale : Cours sur : l'analyse de la valeur; la normalisation d'entreprise; comment améliorer l'efficacité de la maintenance; la gestion des rechanges; le

contrat de maintenance; concepts de qualité; la qualité à la production; la qualité aux études et au marketing; la micro-informatique au service du contrôle qualité; la qualité du logiciel; comprendre la normalisation OSI; méthodes pour établir la documentation technique d'exploitation et de maintenance, comment maîtriser la disponibilité des équipements dès la conception; la conception pour un coût objectif — CCO; apprendre à maîtriser les coûts de la qualité; manuel qualité et procédures. *Début du cours* : Toute l'année. *Durée* : 3-5 jours. *Qualifications* : Qualifications professionnelles. Français. *Dernier délai pour la soumission des candidatures* : —. *Droit d'inscription* : A arranger.

Organisateur : Association française de normalisation (AFNOR)
Tour Europe, Cedex 7
92080 Paris La Défense, France
en collaboration avec
AFCIQ, ACANOR et AFAV

Gestion des entreprises

Description générale : Stages de courte durée sur : la codification dans l'entreprise; comment améliorer l'efficacité de la maintenance; comment maîtriser la disponibilité des équipements de la conception; comment optimiser sa maintenance avec l'outil informatique; comprendre la normalisation OSI; la conduite des projets informatiques; le contrat de maintenance; la gestion des rechanges; documentation technique d'exploitation et de maintenance; maîtriser la gestion de production; méthodes de gestion et de production. *Début du cours* : A arranger. *Durée* : 2-5 jours. *Qualifications* : Sur dossier. Français. *Dernier délai pour la soumission des candidatures* : —. *Droit d'inscription* : —.

Organisme hôte : Association française de normalisation (AFNOR)
Tour Europe, Cedex 7
92080 Paris La Défense, France

Informatique industrielle : automatismes

Description générale : Initiation et pratique des automatismes; automatismes complexes; réseaux locaux industriels; initiation à la robotique; microprocesseurs; langages Pascal et Basic. *Début du cours* : A arranger. *Durée* : 1-2 semaines. *Qualifications* : Sur dossier. Français. *Dernier délai pour la soumission des candidatures* : —. *Droit d'inscription* : FF 4 900-FF 11 000.

Organisme hôte : Institut de régulation et automation
Chemin des Moines
13644 Arles, France

Maîtrise de la qualité des produits industriels

Description générale : Stages de courte durée sur différents aspects de la maîtrise et contrôle de la qualité des différents produits industriels. *Début du cours* : A arranger. *Durée* : 2 jours-1 semaine. *Qualifications* : Sur dossier. Français. *Dernier délai pour la soumission des candidatures* : —. *Droit d'inscription* : —.

Organisateur : Association française de normalisation (AFNOR)
Tour Europe, Cedex 7
92080 Paris La Défense, France
en collaboration avec
AFCIQ

Mesures physicochimiques

Description générale : Mesures sur la qualité de l'air; analyse des fumées; analyse d'ambiance; mesures sur la qualité de l'eau; systèmes de mesure et d'analyse; travaux pratiques. *Début du cours* : 30 mai, 10 juin. *Durée* : 2 semaines. *Qualifications* : Sur dossier. Français. *Dernier délai pour la soumission des candidatures* : —. *Droit d'inscription* : FF 10 750.

Organisme hôte : Institut de régulation et automation
Chemin des Moines
13644 Arles, France

Normalisation d'entreprise

Description générale : Relations entre la normalisation et les autres fonctions de l'entreprise; normalisation et approvisionnement; normalisation et qualité; relations entre la normalisation et l'analyse de la valeur; rôle économique de la normalisation. *Début du cours* : Avril 1989, 1990. *Durée* : 4 jours. *Qualifications* : Ingénieurs et cadres ayant à exercer des fonctions de normalisateurs. Français. *Dernier délai pour la soumission des candidatures* : —. *Droit d'inscription* : —.

Organisateur : Association française de normalisation (AFNOR)
Tour Europe, Cedex 7
92080 Paris La Défense, France
en collaboration avec
ACANOR

Qualité des logiciels

Description générale : Stages de courte durée concernant la qualité des logiciels appliqués dans les entreprises. *Début du cours* : A arranger. *Durée* : 1-4 jours. *Qualifications* : Ingénieurs, qualitatifs. Français. *Dernier délai pour la soumission des candidatures* : —. *Droit d'inscription* : —.

Organisateur : Association française de normalisation (AFNOR)
Tour Europe, Cedex 7
92080 Paris La Défense, France
en collaboration avec
ACANOR

Application of the prestressing force to post-tensioned concrete members

General description: Planning, designing and constructing prestressed concrete frameworks; experimental studies of concrete elements in an industrial experimental plant; presentation of the latest results in theoretical engineering research for optimizing the tensioning process and mastering the complete changes to the shapes of prestressed concrete. *Commencing date*: To be arranged. *Duration*: 14 days. *Qualifications*: English, German. *Last date for receipt of applications*: 31 March. *Fee*: To be arranged.

Host institution: Cottbus University of Technology
Karl-Marx-Strasse 17
7500 Cottbus, German Democratic Republic

Bio-engineering

General description: The use of carrierbound enzymes and cells in bioreactors; methods of calculating ideal and real bioreactors; checking of models of synthesizing microbial protein and products with the help of laboratory fermentors. *Commencing date*: To be arranged. *Duration*: 2 weeks. *Qualifications*: Scientists and

engineers involved in the use of bio-engineering techniques and processes. English, German. *Last date for receipt of applications:* 31 March 1989. *Fee:* To be arranged.

Host institution: Ingenieurhochschule Köthen
Bernburger Strasse 52-57
4370 Köthen, German Democratic Republic

Damage research in commodity science

General description: Possible damage during transport, storage and distribution; damage as indicator of environmental influences; determination of the carrying capacity of products; criteria for recording changes in quality. *Commencing date:* —. *Duration:* 11-16 September 1989. *Qualifications:* German. *Last date for receipt of applications:* 1 July 1989. *Fee:* To be arranged.

Host institution: Handelshochschule Leipzig
PSF 640
7010 Leipzig, German Democratic Republic

Friction welding in mechanical and automobile engineering

General description: Calculation and design of friction-welded joints; quality assurance in friction welding, including non-destructive testing; friction welding techniques, including process control. *Commencing date:* To be arranged. *Duration:* —. *Qualifications:* Welding engineers, designers and production engineers. English. *Last date for receipt of applications:* 31 March 1989. *Fee:* To be arranged.

Host institution: Technische Universität Karl-Marx-Stadt
P.O. Box 964
9010 Karl-Marx-Stadt, German Democratic Republic

Non-destructive materials testing

General description: Organization of non-destructive materials testing (health protection, labour safety, fire prevention). *Commencing date:* To be arranged. *Duration:* 2 weeks. *Qualifications:* Materials testing, quality control and design personnel. English, German. *Last date for receipt of applications:* 31 March 1989. *Fee:* To be arranged.

Host institution: Technische Universität Magdeburg
B.-Bierut-Platz 5
3010 Magdeburg, German Democratic Republic

Optimization of petroleum processing

General description: Crude distillation; reforming process; intensified petroleum processing using cracking processes; protective systems in petroleum processing plants; transport of crude. *Commencing date:* September. *Duration:* 10 days. *Qualifications:* English. *Last date for receipt of applications:* 30 March 1989. *Fee:* To be arranged.

Host institution: Carl Schorlemmer Technical University
O-Nuschke-Strasse
4200 Leuna-Merseburg, German Democratic Republic

Printing machinery

General description: Drafting; procedural principles; operational principles. *Commencing date:* To be arranged. *Duration:* 2 weeks. *Qualifications:* Experience with printing

machinery. *Last date for receipt of applications:* 31 March 1989. *Fee:* To be arranged.

Host institution: Technische Hochschule Leipzig
K. Liebknecht Strasse 132
7030 Leipzig, German Democratic Republic

Building technology

General description: Short courses on: raw materials, building materials; mortars; concrete technology; concrete buildings; concrete pavements; concrete bridges; barrages; planning; management; quality control. *Commencing date:* Throughout the year. *Duration:* 2-5 days. *Qualifications:* Professional qualifications. English, French, Spanish. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: Haus der Technik eV
P.O. Box 101543
4300 Essen 1, Federal Republic of Germany

Chemical technology of papermaking

General description: Symposium covering: trends in papermaking; physical properties of fibres and fillers; retention; wet strength; sizing; closed whitewater circuits; neutral papermaking; resin problems; analyses of disturbing substances; dyeing. *Commencing date:* 18 September 1990. *Duration:* 4 days. *Qualifications:* English, German. *Last date for receipt of applications:* 31 August 1990. *Fee:* To be arranged.

Host institution: Papiertechnische Stiftung (PTS)
Hess-Strasse 130a
8000 Munich 40, Federal Republic of Germany

Coating

General description: Symposium covering: trends in coating; coating pigments; coating base papers; binders; coating colour preparation; application systems; drying; calendaring; assessment of coat quality; printability. *Commencing date:* 12 September 1989. *Duration:* 4 days. *Qualifications:* English, German. *Last date for receipt of applications:* 28 August 1989. *Fee:* To be arranged.

Host institution: Papiertechnische Stiftung (PTS)
Hess-Strasse 130a
8000 Munich 40, Federal Republic of Germany

Garment technology

General description: Short courses on: economical production methods; purchase of raw material and feedstock; process technology machinery and technical equipment; maintenance management; quality control. *Commencing date:* Throughout the year. *Duration:* 2-5 days. *Qualifications:* Professional qualifications. English, French, Spanish. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: Haus der Technik eV
P.O. Box 101543
4300 Essen 1, Federal Republic of Germany

Manufacturing of plastic products

General description: Short courses on: economical production methods with extrusion and injection methods; raw materials; process technology; machinery and equipment; wear and maintenance; quality control. *Commencing date:* Throughout the year. *Duration:* 2-5 days. *Qualifications:* Professional qualifications. English, French, Spanish. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: Haus der Technik eV
P.O. Box 101543
4300 Essen 1, Federal Republic of Germany

Packaging technology

General description: Short courses on: packaging; international regulations on packaging engineering and design; packaging and marketing; choice of materials and process technology; machinery and technical equipment; package testing and quality control. *Commencing date:* Throughout the year. *Duration:* 2-5 days. *Qualifications:* Professional qualifications. English, French, Spanish. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: Haus der Technik eV
P.O. Box 101543
4300 Essen 1, Federal Republic of Germany

Rubber products manufacturing

General description: Short courses on: raw materials; additives; compounding; process technology; extrusion-, injection-pressing machinery; influence on rubber part properties; testing of rubber products; quality control; management of economical production. *Commencing date:* Throughout the year. *Duration:* 2-5 days. *Qualifications:* Professional qualifications. English, French, Spanish. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: Haus der Technik eV
P.O. Box 101543
4300 Essen 1, Federal Republic of Germany

Water and environmental technology

General description: Symposium covering new processes used in effluent treatment and environmental technology with emphasis on current topics. *Commencing date:* 18 April 1989. *Duration:* 3 days. *Qualifications:* English, German. *Last date for receipt of applications:* 31 March 1989. *Fee:* To be arranged.

Host institution: Papiertechnische Stiftung (PTS)
Hess-Strasse 130a
8000 Munich 40, Federal Republic of Germany

Baby incubators

General description: Biological background and operation of incubators; general structure of electronic system; installation, maintenance; trouble-shooting. *Commencing date:* 12 June 1989. *Duration:* 2 weeks. *Qualifications:* Degree in electrical engineering. English. *Last date for receipt of applications:* February 1989. *Fee:* \$US 1,080.

Host institution: Medicor Training Centre
P.O. Box 150
1389 Budapest 62, Hungary

Electrocardiographs

General description: Biological background and the operation of electrocardiographs; general structure of electronic system; installation, maintenance; trouble-shooting. *Commencing date:* June 1989. *Duration:* 2 weeks. *Qualifications:* Degree in electrical engineering. English. *Last date for receipt of applications:* February 1989. *Fee:* \$US 1,080.

Host institution: Medicor Training Centre
P.O. Box 150
1389 Budapest 62, Hungary

National instruments and measuring technique centres

General description: Effective and economic utilization of instruments in a country can be implemented through national instruments and measuring technique centres, such as the Instrument and Measuring Technique Service of the Hungarian Academy of Science. *Commencing date:* November 1989. *Duration:* 2 weeks. *Qualifications:* Degree in engineering or Bachelor of Science; at least 2 years of experience. English. *Last date for receipt of applications:* End of April 1989. *Fee:* SwF 3,900 per week (including accommodation and meals).

Organizer: Instrument and Measuring Technique Service of the Hungarian Academy of Science (MTA-MMSZ)
in collaboration with
Organization for International Technical and Scientific Co-operation (TESCO)
Rosenberg hsp. utca 21
1054 Budapest, Hungary

X-ray equipment

General description: Training in X-ray physics and terminology; theory of X-ray equipment; darkroom techniques; X-ray films; trouble-shooting; X-ray equipment; safety and radiation protection; X-ray anatomy. *Commencing date:* 12 June 1989. *Duration:* 2 weeks. *Qualifications:* Degree in electrical engineering. English. *Last date for receipt of applications:* February 1989. *Fee:* \$US 1,080.

Host institution: Medicor Training Centre
P.O. Box 150
1389 Budapest 62, Hungary

Industrial technology

General description: Short courses on: automation technology; CAD/CAM technology; textile and garment technology; plastics technology; building and construction; microcomputers; systems analysis and programming; microprocessors; computer operations; advanced computer technology; data communications; data security; industry-related application software; management techniques. *Commencing date:* To be arranged. *Duration:* —. *Qualifications:* Technical personnel. English, Chinese. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: Hong Kong Productivity Council
World Commerce Centre, 12/F, Harbour City
11 Canton Road
Kowloon, Hong Kong

Business/enterprise courses for industry

General description: The following are among the courses that can be arranged: entrepreneurial skills development; agency development; patents and copyrights; product development; communications in business; export marketing; selling skills; sales planning and reporting; customer services. *Commencing date:* Throughout the year. *Duration:* —. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: The Training and Employment Authority (FAS)
27-33 Upper Baggot Street
Dublin 4, Ireland

Computer courses for industry

General description: The following courses can be arranged: computer-aided design; computer-aided manufacture; computer-based training programmes; data processing; computer use in business operations; computer applications; micro-processing; analogue electronics; industrial instrumentation. *Commencing date:* Throughout the year. *Duration:* —. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: The Training and Employment Authority (FAS)
27-33 Upper Baggot Street
Dublin 4, Ireland

Electronic courses for industry

General description: The following courses can be arranged: power electronics; electronic trouble-shooting; introduction to data communication; the RS 232 interface; statistical multiplexing; satellite dish installation; electronics for electricians; component identification; electronic test equipment; introduction to digital hardware; advanced digital hardware; industrial electronics skills; advanced industrial electronics skills. *Commencing date:* Throughout the year. *Duration:* —. *Qualifications:* Professional or technical qualifications. English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: The Training and Employment Authority (FAS)
27-33 Upper Baggot Street
Dublin 4, Ireland

Welding technology

General description: Basic and upgrading skills in all aspects of welding. *Commencing date:* Throughout the year. *Duration:* —. *Qualifications:* Professional or technical qualifications. English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: The Training and Employment Authority (FAS)
27-33 Upper Baggot Street
Dublin 4, Ireland

Information retrieval service

General description: Introduction to information processing and dissemination by networks; host computers and data bases available; form and cost of connection, information searching techniques with practical exercises. *Commencing date:* To be

arranged. *Duration:* 1 week. *Qualifications:* Technical or professional qualifications. English, Italian. *Last date for receipt of applications:* To be arranged. *Fee:* To be arranged.

Host institution: Regional Centre for Technological Innovation (CERIT SpA)
Via Villanova di Sotto 9A
33170 Pordenone, Italy

Development of industrial activities

General description: Short courses on: appropriate technology for small industries; automation for small and medium industry; banking; CAM/CAD; computer applications; construction arrangement; entrepreneurial skills; private sector development; industrial safety; labour-management co-operation; management of state-owned enterprises; recycling; moulds and dies; personnel management; distribution; product design; productive maintenance; productivity monitoring; small industries development; strategic management; structural adjustments for economic growth; technology management; training techniques. *Commencing date:* To be arranged. *Duration:* 1-2 weeks. *Qualifications:* Technical consultants of national productivity organizations or similar institutes and senior plant engineers from industry of APO member countries. English. *Last date for receipt of applications:* 3 months before commencing date. *Fee:* \$US 50 per participant from profit-making organizations.

Organizer: Asian Productivity Organization (APO)
4-14 Akasaka 8-chome
Minato-ku
Tokyo 107, Japan

Venue: Asia

Gas reservoir engineering

General description: Natural gas reservoir engineering; phase behaviour and physical properties; rock properties; flow mechanisms; mathematical problems related to natural gas reservoirs. *Commencing date:* To be arranged. *Duration:* 2 weeks. *Qualifications:* English. *Last date for receipt of applications:* 24 April 1989. *Fee:* Nkr 10,500.

Host institution: The Norwegian Institute of Technology
Department of Continuing Education
7034 Trondheim, Norway

Petroleum production

General description: Engineering aspects of offshore production of oil and gas; planning and design tasks related to: well design and performance; offshore handling of oil and gas; field planning and production strategies. *Commencing date:* February 1989. *Duration:* 2 weeks. *Qualifications:* English. *Last date for receipt of applications:* 4 weeks before commencing date. *Fee:* Nkr 10,500.

Host institution: The Norwegian Institute of Technology
Department of Continuing Education
7034 Trondheim, Norway

Reservoir engineering

General description: Rock and fluid properties; single- and multiphase fluid flow; an investigation of the dynamics and reserves of entire hydrocarbon reservoirs.

Commencing date: January 1989. *Duration:* 2 weeks. *Qualifications:* English. *Last date for receipt of applications:* 4 weeks before commencing date. *Fee:* NKr 10,500.

Host institution: The Norwegian Institute of Technology
Department of Continuing Education
7034 Trondheim, Norway

Safety and reliability engineering

General description: Safety concerns and safety principles applied in designing and operating offshore petroleum production platforms. *Commencing date:* To be arranged. *Duration:* 2 weeks. *Qualifications:* English. *Last date for receipt of applications:* 4 weeks before commencing date. *Fee:* NKr 10,500.

Host institution: The Norwegian Institute of Technology
Department of Continuing Education
7034 Trondheim, Norway

Modern tool steel types and their heat treatment

General description: Development of tool steel types; technologies for heat treatment of tool steels. *Commencing date:* To be arranged. *Duration:* 1 week. *Qualifications:* University degree in metallurgy or equivalent; practical experience. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* To be arranged.

Organizer: Institute of Precision Mechanics
Contact address:
Office for the Promotion of Progress in Science, Technology and
Development
Wspolna Str. 1/3
00-529 Warsaw, Poland

Polymer chemistry

General description: Short courses on: medical plastics; polymeric foams; thermoforming; flame retardant polymers; thermoplastic matrix composites. *Commencing date:* To be arranged. *Duration:* 2-3 days. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* SwF 1,280-SwF 1,680.

Host institution: Technomic Publishing AG
Elisabethenstrasse 15
4051 Basel, Switzerland

Ultrafiltration in food and bioprocessing

General description: Membrane technology, with emphasis on ultrafiltration; basic principles; evaluating currently available membranes and equipment; optimization processing parameters; fouling and cleaning of membranes and process design. *Commencing date:* 27 September. *Duration:* 2 days. *Qualifications:* English. *Last date for receipt of applications:* 6 September. *Fee:* SwF 1,280.

Host institution: Technomic Publishing AG
Elisabethenstrasse 15
4051 Basel, Switzerland

Agricultural engineering and staff management

General description: Short courses on: land drainage maintenance planning and evaluation; programmable logic controllers; self-management; staff management; training of trainers. *Commencing date:* To be arranged. *Duration:* 4 days. *Qualifications:* English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* To be arranged.

Host institution: Professional Development Centre
Silsoe College
Silsoe, Bedford MK45 4DT, United Kingdom

Applied pneumatics

General description: The course gives a comprehensive introduction to applied pneumatics, using a simulator panel to give experience of practical circuits. *Commencing date:* Throughout the year. *Duration:* 6 days. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* —.

Host institution: Metcon Training
14 Pall Mall
London, United Kingdom

Basic engineering

General description: Skills training available: handskills; machining; electronics; electrics; fabrication; welding; engineering drawing; diesel and petrol engines; vehicle maintenance; inspection and measurement; engineering science. *Commencing date:* To be arranged. *Duration:* —. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* Approximately £315 per week plus VAT, if applicable (including accommodation, half board, teaching materials).

Host institution: Eaton Hall International
Nottinghamshire County Council
Retford, Nottinghamshire DN22 0PR, United Kingdom

Basic fan design

General description: The course deals with all types of fan from purely axial-flow to purely radial-flow and is limited to small pressure rise designs in which the working fluid (generally air or other gas) can be considered as incompressible. *Commencing date:* To be arranged. *Duration:* 1 day. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: University College of Swansea
Department of Mechanical Engineering
Singleton Park
Swansea SA2 8PP, United Kingdom

Basic supervisory skills

General description: Role of the supervisor; communications; cost control; motivation; group behaviour; team building; leadership; staff training; discipline; safety; quality. *Commencing date:* Throughout the year. *Duration:* 3-6 days. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* —.

Host institution: Metcor Training
14 Pall Mall
London, United Kingdom

Business management

General description: Short courses on: business strategy; construction industry; internal consultancy; leadership; management; marketing; project management. *Commencing date:* To be arranged. *Duration:* 1-2 weeks. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: Price Waterhouse
The Urwick Management Centre
Baylis House
Stoke Poges Lane
Slough, Berkshire SL1 3PF, United Kingdom

Business management

General description: Short courses on: business management, finance and accounting; information technology and computing; marketing. *Commencing date:* Throughout the year. *Duration:* —. *Qualifications:* English. *Last date for receipt of applications:* 2 weeks before commencing date. *Fee:* To be arranged.

Host institution: Brown & Brown Training Programmes, Oxford
20 Warnborough Road
Oxford OX2 6JA, United Kingdom

Chemical engineering

General description: The course covers: mass and energy balances; fluid mechanics; heat transfer; filtration; distillation; instrumentation and control. *Commencing date:* 8 June 1989. *Duration:* 5 days. *Qualifications:* Degree in chemistry or equivalent. *Last date for receipt of applications:* 1 week before commencing date. *Fee:* £354.

Host institution: Technology & Business Centre
Paisley College of Technology
High Street
Paisley PA1 2BE, United Kingdom

Community water supply and sanitation

General description: A postgraduate diploma course suitable for professionals of any discipline involved in water supply and sanitation in the Third World covering social sciences, technology and management for implementation. *Commencing date:* 23 April 1989, 29 April 1990. *Duration:* —. *Qualifications:* Degree or equivalent; appropriate professional experience. English. *Last date for receipt of applications:* 28 February 1989, 1990. *Fee (provisional):* £3,800 (including residence and all meals).

Host institution: Water, Engineering and Development Centre (WEDC)
Loughborough University of Technology
Loughborough LE11 3TU, United Kingdom

Computer applications

General description: Short courses on: appreciation of AMT; CAD; computers in design and decision-making; computer aided engineering; practical finite element analysis. *Commencing date:* To be arranged. *Duration:* 3 days-1 week. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: University College of Swansea
Department of Mechanical Engineering
Singleton Park
Swansea SA2 8PP, United Kingdom

Developing income-generating enterprises

General description: The objective of the course is to enable participants to design and implement effective and eventually self-sustaining programmes of assistance for enterprises, within the context of overall community development. *Commencing date:* 24 April 1989, April 1990. *Duration:* 6 weeks. *Qualifications:* Working or planning to work for a private voluntary or other non-governmental organization with current or future responsibility for assisting income generating activities. English. *Last date for receipt of applications:* February 1989, 1990. *Fee:* £3,500-£3,650 (including accommodation and meals).

Host institution: Enterprise Development Centre
Cranfield School of Management
Cranfield, Bedford MK43 0AL, United Kingdom

Digital techniques

General description: Short courses on: data communication; digital techniques and microprocessors and systems. *Commencing date:* To be arranged. *Duration:* 1 week. *Qualifications:* Good level of secondary education. English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: BTIAL
Bailbrook College
39 London Road West
Bath BA1 7JD, United Kingdom

Effective managers/supervisors

General description: A management skills course designed to increase the effectiveness of managers in communications, problem solving, decision-making and leadership. Emphasis is placed on how best to motivate people to work efficiently. *Commencing date:* August, September, November 1989, February, April, June, September, November 1990. *Duration:* 5 days. *Qualifications:* Some knowledge of management. English. *Last date for receipt of applications:* 2 weeks before commencing date. *Fee:* £300.

Host institution: Teesside Transport Training Association
Hamilton House
Cargo Fleet Lane
Middlesbrough, Cleveland TS3 8DJ, United Kingdom

Electromagnetic compatibility (EMC)

General description: Short courses on: sequences and cryptography; shielding and crosstalk; the European Community EMC directive. *Commencing date:* To be arranged. *Duration:* 1-2½ days. *Qualifications:* Engineers; Bachelor of Science. English. *Last date for receipt of applications:* To be arranged. *Fee:* £200-£3,960.

Host institution: The York Electronics Centre
University of York
York YO1 5DD, United Kingdom

Electronic devices and process control

General description: Short courses on: fundamentals of electronic measuring devices; basic electronics in instrumentation; introduction to process computers; process measurement technology; process control technology; industrial boiler control

systems; fundamentals of mechanical and pneumatic instrumentation. *Commencing date:* To be arranged. *Duration:* 1-2 weeks. *Qualifications:* Instrument engineers and senior technicians. English. *Last date for receipt of applications:* 4 weeks before commencing date. *Fee:* £350-£500.

Host institution: Foxboro Great Britain Ltd.
Redhill, Surrey RH1 2HL, United Kingdom

Electronics

General description: The course gives an introduction to solid state devices, their uses in different types of electronic circuitry, fault finding and repair. *Commencing date:* Throughout the year. *Duration:* 3 days. *Qualifications:* Electrical maintenance personnel and all those involved in electronics. English. *Last date for receipt of applications:* —. *Fee:* —.

Host institution: Metcon Training
14 Pall Mall
London, United Kingdom

Furniture industry development

General description: Short courses on: design of seating; dimensional control and measurement; effective panel; furniture packing; improving management performance; production, management, design and marketing for furniture companies; upholstery fabrics. *Commencing date:* To be arranged. *Duration:* 1 day-2 weeks. *Qualifications:* English. *Last date for receipt of applications:* 2 weeks before commencing date. *Fee:* £100 per day.

Host institution: Furniture Industry Research Association
Maxwell Road
Stevenage, Hertfordshire SG1 2EW, United Kingdom

General textiles

General description: A course designed to introduce scientists or engineers to the fundamentals of textile processing, properties and uses. *Commencing date:* To be arranged. *Duration:* 2 weeks. *Qualifications:* Preferably previous scientific training. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* £600 (plus living costs).

Host institution: Department of Textile Industries
University of Leeds
Leeds LS2 9JT, United Kingdom

Grain, malt and microbial technology

General description: Fundamental aspects of malting and brewing science. *Commencing date:* March 1988. *Duration:* 5 days. *Qualifications:* English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* To be arranged.

Host institution: Heriot-Watt University
Continuing Education
Riccarton, Edinburgh EH14 4AS, United Kingdom

Industrial hydraulics

General description: The course gives a comprehensive introduction to industrial hydraulics using a simulator panel to give experience of practical circuits.

Commencing date: Throughout the year. *Duration:* 6 days. *Qualifications:* For maintenance personnel and all those involved in hydraulics. English. *Last date for receipt of applications:* —. *Fee:* —.

Host institution: Metcon Training
14 Pall Mall
London, United Kingdom

Industrial planning and programming

General description: Short courses on: microcomputer programming for production engineers; MTM practitioners; work study assistants. *Commencing date:* Throughout the year. *Duration:* 1-2 weeks. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: Fielden House Productivity Centre Ltd.
Fielden House
Mersey Road
West Didsbury, Manchester M20 8QA, United Kingdom

Instructional techniques

General description: Systematic analytical training; acquiring skills and knowledge; planned instruction; task analysis preparation; questioning; trade talks; visual aids; fault analysis; standards and evaluations. *Commencing date:* Throughout the year. *Duration:* 3-10 days. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* —.

Host institution: Metcon Training
14 Pall Mall
London, United Kingdom

Instructional techniques for trainers

General description: The objectives of the course are: identifying training needs; setting training objectives; planning and presenting training sessions including the use of visual aids; coaching; assessing; reviewing and reporting. *Commencing date:* Throughout the year. *Duration:* 10 days. *Qualifications:* English. *Last date for receipt of applications:* 2 weeks before commencing date. *Fee:* £600 (plus accommodation, £320).

Host institution: Skills Training Agency
Overseas Section
Skills House
c/o Moorfoot
Sheffield S1 4PQ, United Kingdom

Instruction techniques

General description: Designed for those who have to encourage learning in other people. Skills of instruction and presentation are emphasized together with improving speaking and listening skills. *Commencing date:* September, November 1989, January, March, June, September 1990. *Duration:* 3 days. *Qualifications:* English. *Last date for receipt of applications:* 2 weeks before commencing date. *Fee:* £200.

Host institution: Teesside Transport Training Association
Hamilton House
Cargo Fleet Lane
Middlesbrough, Cleveland TS3 8DJ, United Kingdom

Interpersonal skills for trainers

General description: Designed for management trainers, this course aims to give the participants the trainer skills necessary to run a behaviourally-oriented management course within their own organization. These skills include creating a supportive environment, observation, behaviour analysis and giving feedback. *Commencing date:* To be arranged. *Duration:* 5 days. *Qualifications:* English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* To be arranged.

Organizer: British Association for Commercial & Industrial Education
(BACIE)
16 Park Crescent
London W1N 4AP, United Kingdom

Venue: Coventry, United Kingdom

Maintenance

General description: Short courses on: computers in maintenance; condition-based maintenance; vibration monitoring. *Commencing date:* To be arranged. *Duration:* 1-4 days. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* £160-£420.

Host institution: Wolfson Maintenance
University of Manchester
Manchester M13 9PL, United Kingdom

Maintenance of air-conditioning systems

General description: The principles of design, construction and operation of air-conditioning systems; servicing; balancing; testing energy conservation in systems. *Commencing date:* April, June, July, October, November. *Duration:* —. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* £525.

Host institution: Haden Maintenance Training
23 Gladstone Road
Croydon, Surrey CR0 2BQ, United Kingdom

Maintenance of refrigeration systems

General description: Basic principles of system identification of components; reading pressure, temperature and humidity levels; replacing faulty components; fault finding. *Commencing date:* —. *Duration:* Throughout the year. *Qualifications:* English. *Last date for receipt of applications:* 28 days before commencing date. *Fee:* £525.

Host institution: Haden Maintenance Training
23 Gladstone Road
Croydon, Surrey CR0 2BQ, United Kingdom

Management

General description: Short courses on: basic supervision skills; basic management skills; health and safety for managers; leadership, team building; productivity and quality improvement. *Commencing date:* To be arranged. *Duration:* 2-5 days. *Qualifications:* English. *Last date for receipt of applications:* 1-3 months before commencing date. *Fee:* £650 plus VAT (residential).

Host institution: Amarc (Tes) Ltd.
Hebburn Management Centre
Ellison Street
Hebburn, Tyne & Wear NE31 1YN, United Kingdom

Management

General description: Short courses on: communication, international selling; key management techniques; managing change; multicultural effectiveness; personal effectiveness; supervisory skills. *Commencing date:* —. *Duration:* 2-14 days. *Qualifications:* Professional qualifications. English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: Cargill Attwood International
8 Teddington Park
Teddington TW11 8DA, United Kingdom

Management of research and development

General description: A course for research team leaders aiming to: increase participants understanding of the human and administrative factors in successful research and development management; provide information about relevant techniques and methods; provide an opportunity for participants to analyse, share and assess their own managerial experience and increase their awareness of the way in which they function as managers. *Commencing date:* 26 September, 28 November 1989. *Duration:* 2 weeks. *Qualifications:* Some experience of research and development management. English. *Last date for receipt of applications:* 1 August, 1 October 1989. *Fee (provisional):* £1,075.

Host institution: Brunel Management Programme
Brunel University
Uxbridge, Middlesex UB8 3PM, United Kingdom

Management problems

General description: Effective maintenance management; project management; production management; production control; value engineering and analysis; quality management. *Commencing date:* Throughout the year. *Duration:* —. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* Pera members, £330-£485, non-members, £400-£585.

Host institution: Pera
Melton Mowbray, Leicestershire LE13 0PB, United Kingdom

Metallurgy

General description: Short courses on: casting defects; casting design; cupola control; electric melting; foundry appreciation; practical ferrous and non-ferrous metallurgy. *Commencing date:* To be arranged. *Duration:* 3-10 days. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* —.

Host institution: Metcon Training
14 Pall Mall
London, United Kingdom

Occupational safety training services

General description: Short courses on occupational safety for personnel at every level of industry and commerce. *Commencing date:* To be arranged. *Duration:* —. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* —.

Host institution: The Royal Society for the Prevention of Accidents (RoSPA)
Occupational Safety Training Services
22 Summer Road
Acocks Green, Birmingham B27 7UT, United Kingdom

Operation, maintenance and repair of equipment in health buildings

General description: Short courses on: automatic control for craftsmen; air-conditioning and ventilation; biomedical equipment maintenance; boiler house practice; electronics for craftsmen; lift maintenance; medical gas and vacuum systems; microprocessor control; refrigeration. *Commencing date:* To be arranged. *Duration:* 2 weeks. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* £600 per week (including accommodation).

Host institution: National Health Service Training Authority
Hospital Estate Management and Engineering Centre
Eastwood Park
Falfield, Wotton-under-Edge, Gloucestershire GL12 8DA,
United Kingdom

Personnel management

General description: The objective of the course is to improve skills in selecting and placing hourly paid employees, to give basic knowledge of laws relating to employment, and to examine ways to improve the retention of labour. *Commencing date:* Throughout the year. *Duration:* 1 week. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: Fielden House Productivity Centre Ltd.
Fielden House
Mersey Road
West Didsbury, Manchester M20 8QA, United Kingdom

Petrochemical training programmes

General description: Short courses on: oilfield operations; oil and gas development; petroleum engineering; oil recovery and developments in enhanced oil recovery techniques; oilfield drilling completions, testing and workover operations; process facilities for handling oil and natural gas; production economics; creative international trading in crude oil and petroleum products; joint interest for offshore operations; subsea oilfield engineering; the economics of marginal oilfield development; offshore project management; structure and development of the international petroleum and petrochemical industries; managing and financing of major capital projects in oil and gas; natural gas; energy forecasting techniques and practices; use of microcomputers in supply and planning of refinery operations; refinery upgrading; refinery non-fuel streams; forecasting world oil demand, supply, trade and prices; control of oil inventories; retail petroleum marketing; liquefied petroleum gases; crude oil; bunkering; oil futures in physical trading; lubricants and functional fluids; petrochemical technology and economics; polymers in the oilfield; drilling fluids; water injection systems; oilfield chemicals; transport fuel additives; process, metalworking and functional fluids; refinery process chemicals; synthetic lubricants. *Commencing date:* March-November. *Duration:* 3-5 days. *Qualifications:* English. *Last date for receipt of application:* 1 month before commencing date. *Fee:* £575-£1,575.

Host institution: The College of Petroleum Studies
Oxford, United Kingdom

Postgraduate training

General description: Courses on: chemical engineering; civil engineering; electrical and electronic engineering; mining engineering; metallurgy and materials science; production engineering and production management; theoretical mechanics;

chemistry; computer science; mathematics; economics; planning. *Commencing date:* To be arranged. *Duration:* —. *Qualifications:* English. *Last date for receipt of application:* —. *Fee:* To be arranged.

Host institution: The University of Nottingham
University Park
Nottingham NG7 2RD, United Kingdom

Public health and food hygiene inspection skills

General description: Modular training in: food safety and quality standards; inspection of fish and meats, cereals, vegetables and fruits; health education skills; current and future international legislation. *Commencing date:* To be arranged. *Duration:* —. *Qualifications:* Technical or professional qualifications or experience. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* To be arranged.

Host institution: Food Laboratories International
Kingsheath House
Cribbs Causeway
Bristol BS10 7TU, United Kingdom

Quality assurance

General description: A wide range of courses on quality survey and related activities. *Commencing date:* Throughout the year. *Duration:* —. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* —.

Host institution: Metcon Training
14 Pall Mall
London, United Kingdom

Quality assurance

General description: Economic, communication and planning aspects of quality assurance; statistical concepts of quality assurance; quality control charts; quality assurance and the consumer; quality assurance test procedures prior to, during and after manufacture specification interpretation; training and certification of quality assurance personnel; reliability case-studies, the quality assurance manual product liability. *Commencing date:* To be arranged. *Duration:* 1 day. *Qualifications:* Industrial experience. *Last date for receipt of applications:* 1 September 1989, 1990. *Fee:* £60-£80.

Host institution: Scottish School of Non-Destructive Testing
Paisley College
High Street
Paisley PA1 2BE, Scotland, United Kingdom

Quality assurance and related subjects

General description: Regular and comprehensive programme of short courses on all subjects relating to quality assurance. *Commencing date:* To be arranged. *Duration:* —. *Qualifications:* Personnel at all levels engaged in the quality assurance of products and service. *Last date for receipt of applications:* To be arranged. *Fee:* To be arranged.

Host institution: Institute of Quality Assurance
10 Grosvenor Gardens
London SW1 0DQ, United Kingdom

Report writing for managers

General description: Principles of effective written communication; basic formats for technical, administrative and promotional reports; grammatical review; preparing and drafting a report; critical examination of sample reports; paraphrasing; note-taking. Practice includes: case-study and in-tray exercises; preparing, drafting, writing and presentation of reports, on a group basis where feasible. *Commencing date:* To be arranged. *Duration:* 2 weeks. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* Approximately £295 per week plus VAT, if applicable. (Accommodation, half-board, teaching materials included.)

Host institution: Eaton Hall International
Nottinghamshire County Council
Retford, Nottinghamshire DN22 0PR, United Kingdom

Safety officer

General description: Safety legislation that affects industrial activities; areas where effective safety training can reduce accidents; procedures to adopt in order that a thorough investigation into accidents can be carried out. *Commencing date:* Throughout the year. *Duration:* 7 days. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: Fielden House Productivity Centre Ltd.
Fielden House
Mersey Road
West Didsbury, Manchester M20 8QA, United Kingdom

Sewing machinist instructor

General description: The course covers: designing cloth training exercises; the techniques of instruction; course organization. *Commencing date:* Throughout the year. *Duration:* 2 weeks. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: Fielden House Productivity Centre Ltd.
Fielden House
Mersey Road
West Didsbury, Manchester M20 8QA, United Kingdom

Textile industries management

General description: Quality control; construction analysis; seam and stitch types; machine characteristics; method study; design and construction improvements; work measurement; factory layout; line balancing; production systems; work aids; payment systems; job evaluation; standard costing; cost control; recruitment; selection and training. *Commencing date:* Throughout the year. *Duration:* 2 weeks. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: Fielden House Productivity Centre Ltd.
Fielden House
Mersey Road
West Didsbury, Manchester M20 8QA, United Kingdom

Textiles for chemists

General description: A course designed for chemists entering the industry as dyers or finishers to introduce them to general aspects of the textile industry, with special emphasis on dyeing and finishing. *Commencing date:* To be arranged. *Duration:*

7 days. *Qualifications:* Preferably chemical training. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* £350 (plus living costs).

Host institution: Department of Textile Industries
University of Leeds
Leeds LS2 9JT, United Kingdom

Trainer development

General description: Short courses on: design of basic technician training programmes; training for newly appointed training officers; instructional skills; management skills for trainers; managing people; managing the training function; open learning; training methods workshop; training planning; training programme design. *Commencing date:* To be arranged. *Duration:* 3-10 days. *Qualifications:* English. *Last date for receipt of applications:* 2 weeks before commencing date. *Fee:* £449-£2,300.

Host institution: Management of Training Centre
Engineering Industry Training Board (EITB)
Webton Court
Allerton Park
Leeds LS7 4ND, United Kingdom

Training instructor

General description: Design and preparation of training programmes, induction training; use of visual aids; instructional and demonstration techniques; health and safety training; monitoring and recording of trainee progress. *Commencing date:* Throughout the year. *Duration:* 2 weeks. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: Fielden House Productivity Centre Ltd.
Fielden House
Mersey Road
West Didsbury, Manchester M20 8QA, United Kingdom

Training of trainers

General description: Short courses designed for trainers, personnel and management development specialists: behavioural sciences for trainers; foundation course for trainers; identification of training needs; job analysis for training personnel; the trainer as an internal consultant; participative methods for trainers; training evaluation strategies; training design. *Commencing date:* To be arranged. *Duration:* 3-5 days. *Qualifications:* English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* To be arranged.

Organizer: British Association for Commercial and Industrial Education
(BACIE)
16 Park Crescent
London W1N 4AP, United Kingdom

Venue: Coventry, England

Understanding microprocessors I

General description: Logic devices; arithmetic devices; microprocessor architecture; the internal operation of the microprocessor; peripheral devices; a microprocessor

system. *Commencing date:* 20 February 1989. *Duration:* 2 weeks. *Qualifications:* Basic electronics or equivalent. English. *Last date for receipt of applications:* 2 January 1989. *Fee:* £470 per week.

Host institution: Racal Training Services Ltd.
Heckfield Place
Heckfield near Basingstoke, Hampshire RG27 0LD
United Kingdom

Understanding microprocessors II

General description: Typical microprocessor systems; introduction to assembly and machine language; programming in assembly and machine language; introduction to high level language (basic); programming using high level language (basic). *Commencing date:* 6 March 1989. *Duration:* 2 weeks. *Qualifications:* Basic electronics or equivalent; and Understanding Microprocessors I. *Last date for receipt of applications:* 2 January 1989. *Fee:* £470 per week.

Host institution: Racal Training Services Ltd.
Heckfield Place
Heckfield near Basingstoke, Hampshire RG27 0LD
United Kingdom

Water and sewerage operations

General description: Planning and development; organization and management; charging and financial policies; manpower development and training; day-to-day management and maintenance of engineering-based operational functions. *Commencing date:* To be arranged. *Duration:* —. *Qualifications:* Water sector background. English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: Water International Ltd.
P.O. Box 9
Oakland House
Talbot Road
Old Trafford
Manchester M16 0QY, United Kingdom

Business planning and management

General description: Participants will learn how to: develop a business plan; identify and diagnose problems in order to make needed adjustments; use scheduling and monitoring tools, such as cash flow projections, to manage a business effectively. *Commencing date:* 25 September 1989. *Duration:* 2 weeks. *Qualifications:* Bachelor's degree or equivalent. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* \$US 1,500.

Host institution: International Institute for Development
Graduate School, USDA
600 Maryland Avenue, S.W., Suite 134
Washington, DC 20024, United States of America

Environmental impact analysis

General description: Topics discussed include: designing Environmental Impact Analysis (EIA); making EIA cost-effective; simplifying assessment and evaluation methodologies; implementing EIA. *Commencing date:* 1 May 1989. *Duration:*

2 weeks. *Qualifications:* Bachelor's degree or equivalent. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* \$US 1,500.

Host institution: International Institute for Development
Graduate School, USDA
600 Maryland Avenue, S.W., Suite 134
Washington, DC 20024, United States of America

Financial management

General description: Financial analysis and planning; working capital management; capital budgeting process; long-term financing; expanding the perspective of corporate finance. *Commencing date:* 3 January 1989. *Duration:* 3 weeks. *Qualifications:* Bachelor's degree or equivalent. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* \$US 1,500.

Host institution: International Institute for Development
Graduate School, USDA
500 Maryland Avenue, S.W., Suite 134
Washington, DC 20024, United States of America

Management

General description: Short courses on: management — communication for development; project management and evaluation; managing development with microcomputers. *Commencing date:* Throughout the year. *Duration:* 5 days-2 weeks. *Qualifications:* English, Spanish. *Last date for receipt of applications:* —. *Fee:* \$US 595-\$US 975.

Host institution: Management Training and Development Institute
P.O. Box 23975
600 Water Street, S.W.
Washington, DC 20026, United States of America

Managerial statistics

General description: Study of statistics: uses, limitations, logical steps, accuracy in data collection; sources of statistics; organizing data with frequency distributions; averages and their uses; variability: measurement and meaning; scientific sampling: confidence and practical value; basic principles of sampling; sampling error and risk; probability; forecasting. *Commencing date:* 3 January, 14 August 1989. *Duration:* 3 weeks. *Qualifications:* Bachelor's degree or equivalent. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* \$US 1,500.

Host institution: International Institute for Development
Graduate School, USDA
600 Maryland Avenue, S.W., Suite 134
Washington, DC 20024, United States of America

Personnel management analysis

General description: Planning the survey; finding the data; identifying the problem; analysing and resolving the problem; producing the final report. *Commencing date:* 4 December 1989. *Duration:* 5 days. *Qualifications:* Bachelor's degree or equivalent. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* \$US 1,000.

Host institution: International Institute for Development
Graduate School, USDA
600 Maryland Avenue, S.W., Suite 134
Washington, DC 20024, United States of America

Principles of marketing

General description: Marketing concepts; buyer behaviour; marketing research and segmentation; product planning; pricing; advertising and sales promotion; selling and sales management; distribution; marketing strategy. *Commencing date:* 3 January, 14 August 1989. *Duration:* 3 weeks. *Qualifications:* Bachelor's degree or equivalent. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* \$US 1,500.

Host institution: International Institute for Development
Graduate School, USDA
600 Maryland Avenue, S.W., Suite 134
Washington, DC 20024, United States of America

Small business accounting and information systems

General description: The accounting cycle; completion of the accounting cycle and financial statements; accounting for merchandise and cash transactions; procedures for periodic reporting; accounts receivable and accounts payable; merchandise inventory; deferrals and accruals. *Commencing date:* 9 October 1989. *Duration:* 2 weeks. *Qualifications:* Bachelor's degree or equivalent. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* \$US 1,500.

Host institution: International Institute for Development
Graduate School, USDA
600 Maryland Avenue, S.W., Suite 134
Washington, DC 20024, United States of America

Small business development: entrepreneurship

General description: The course will enable participants to: analyse their own capabilities; build and develop key business skills; learn to create funding opportunities. It applies a variety of instructional tools including: case-studies; structured exercises; video presentations; interviews of successful entrepreneurs. *Commencing date:* 23 October 1989. *Duration:* 2 weeks. *Qualifications:* Bachelor's degree or equivalent. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* \$US 1,500.

Host institution: International Institute for Development
Graduate School, USDA
600 Maryland Avenue, S.W., Suite 134
Washington, DC 20024, United States of America

Small business development: productivity

General description: The objectives of the course are: to increase awareness of the need for productivity improvement; to provide an understanding of what productivity is; to acquaint participants with the methods to improve and measure productivity in their own organizations. Emphasis is placed on the functional areas of: improvement; participatory management; critical thinking; planning; maximum utilization of human resources. *Commencing date:* 6 November 1989. *Duration:* 2 weeks. *Qualifications:* Bachelor's degree or equivalent. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* \$US 1,500.

Host institution: International Institute for Development
Graduate School, USDA
600 Maryland Avenue, S.W., Suite 134
Washington, DC 20024, United States of America

Strategic management for senior officials

General description: The role of the senior government executive; managing large and complex organizations; setting a motivational climate; current research on leadership excellence; national development in a global economy; decision-making and planning; trends for the future; staffing and employee development. **Commencing date:** 11 September 1989. **Duration:** 2 weeks. **Qualifications:** Bachelor's degree or equivalent. English. **Last date for receipt of applications:** 1 month before commencing date. **Fee:** \$US 2,000.

Host institution: International Institute for Development
Graduate School, USDA
600 Maryland Avenue, S.W., Suite 134
Washington, DC 20124, United States of America

B. DEVELOPING COUNTRIES/PAYS EN DÉVELOPPEMENT/ PAÍSES EN DESARROLLO

Autodesarrollo en recursos humanos

Descripción general: Un programa que tiene la finalidad de transferir la metodología elaborada por SENAI para el desarrollo de sus recursos humanos, en el marco de educación continua y autodesarrollo. *Fecha de iniciación:* Para ser acordado. *Duración:* 40 horas. *Calificaciones:* Formación superior; haber prestado servicio durante 3 años en el área de entrenamiento/desarrollo de recursos humanos. *Portugués.* *Fecha límite para la recepción de las solicitudes:* Por lo menos 2 meses antes del inicio de la actividad. *Derechos de inscripción:* Para ser acordados.

Institución huésped: Departamento Nacional do Serviço Nacional de Aprendizagem Industrial
Divisão de Desenvolvimento de Recursos Humanos
Av. Nilo Peçanha 50, sala 2812
Centro, Rio de Janeiro, Brasil

Fertilizer production technology

General description: Structure of fertilizer industry; nitrogen fertilizers; phosphate fertilizers; potash fertilizers; compound fertilizers; organic and organic mineral fertilizers; secondary and micronutrients; physical properties of fertilizers; environmental factors on fertilizers production. *Commencing date:* 8 October 1990. *Duration:* 5 days. *Qualifications:* Chemists, engineers, economists. English, Portuguese. *Last date for receipt of applications:* —. *Fee:* \$US 500.

Host institution: Centro de Estudos de Fertilizantes (CEFER)
Instituto de Pesquisas Tecnológicas do Estado de São Paulo
SA (IPT)
C.P. 7141
Cidade Universitária
05508 São Paulo, São Paulo, Brazil

Tecnología de la madera

Descripción general: Recursos forestales de América Latina; anatomía e identificación de maderas tropicales; explotación de bosques plantados; aserraderos; secado; bio-deterioración y preservación; propiedades físico-mecánicas de la madera; producción de paneles y muebles; producción y utilización. *Fecha de iniciación:* Segunda semana de mayo. *Duración:* 2 semanas. *Calificaciones:* Calificación profesional. Español, portugués. *Fecha límite para la recepción de las solicitudes:* 2 meses antes del comienzo. *Derechos de inscripción:* \$US 350.

Institución huésped: IPT
División de Maderas
Casilla Postal 7141
01000 São Paulo, São Paulo, Brasil

Data base IV for users and programmers

General description: Résumé of data base fundamentals; the new commands; the control centre; applications generator; the dBase compiler; SQL implementation; query by

example; networking dBase IV; multi-user capability; dBase management issues. *Commencing date:* 5 June 1989. *Duration:* 5 days. *Qualifications:* Engineers or middle management. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* £C 320.

Host institution: The Institution of Electrical Engineers (IEE)
Higher Technical Institute (HTI)
P.O. Box 2423
Nicosia, Cyprus

Data communications and local area networks

General description: Data transmission fundamentals; the ISO models; communication interfaces; modems; media and interfaces; analog and digital networks; network architecture and protocols; packet switching; office automation; local area networks; the token ring network; the LAN market place. *Commencing date:* 27 March 1989. *Duration:* 5 days. *Qualifications:* Engineers or middle management. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* £C 320.

Host institution: The Institution of Electrical Engineers (IEE)
Higher Technical Institute (HTI)
P.O. Box 2423
Nicosia, Cyprus

Introduction to industrial electronic control

General description: Sensors; output devices; programmable controllers; software aspects; programming examples; practical work. *Commencing date:* 16 January 1989. *Duration:* 5 days. *Qualifications:* Engineers or middle management. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* £C 320.

Host institution: The Institution of Electrical Engineers (IEE)
Higher Technical Institute (HTI)
P.O. Box 2423
Nicosia, Cyprus

OS/2 for developers and users

General description: OS/2 system overview; design motivations; 80286 architecture; multitasking capability; memory; development tools; input/output; future versions. *Commencing date:* 5 June 1989. *Duration:* 5 days. *Qualifications:* Engineers or middle management. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* £C 320.

Host institution: The Institution of Electrical Engineers (IEE)
Higher Technical Institute (HTI)
P.O. Box 2423
Nicosia, Cyprus

UNIX/XENIX

General description: Introduction; directory and file structure; the editors; the shell as a command language; further directory and file structure; inter user communication; the shell as a programming language; utilities; system management. *Commencing date:* 27 March 1989. *Duration:* 5 days. *Qualifications:* Engineers or middle

management. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* £C 320.

Host institution: The Institution of Electrical Engineers (IEE)
Higher Technical Institute (HTI)
P.O. Box 2423
Nicosia, Cyprus

Fertilizer industry development

General description: Short courses on: development of the management maintenance, instrumentation, distribution and marketing activities in the fertilizer industry. *Commencing date:* To be arranged. *Duration:* 3-10 days. *Qualifications:* Engineers; executives; experience. English. *Last date for receipt of applications:* —. *Fee:* \$US 100-\$US 500 (including board and lodging).

Organizer: The Fertilizer Association of India
Near Jawaharlal Nehru University
New Delhi 110067, India

Venue: India

Management

General description: Short courses on: computer aided management; computers: a management tool; computers in mining engineering; finance; information management; management of training; project management. *Commencing date:* To be arranged. *Duration:* 2 days-3 weeks. *Qualifications:* Executives; managers; support staff. English. *Last date for receipt of applications:* 4 weeks before commencing date. *Fee:* To be arranged.

Organizer: Computer Management Centre
33A Chowringhee Road, 5th floor
Calcutta 700-071, India

Venue: Calcutta, India
and/or other countries

Packaging

General description: Short courses for executives in all branches of packaging. *Commencing date:* To be arranged. *Duration:* 1-4 days. *Qualifications:* Executives. English. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: Indian Institute of Packaging
P.O. Box 9432
E-2, MIDC Area Andheri (East)
Bombay 400093, India

Fire and safety

General description: Short courses on the improvement of knowledge and skills in preventing and extinguishing fire. *Commencing date:* To be arranged. *Duration:* 2 weeks. *Qualifications:* Supervisors; managers. Indonesian. *Last date for receipt of applications:* 2 weeks before commencing date. *Fee:* Rp 275,000-Rp 1,000,000.

Host institution: Pertamina Fire and Safety Training Division
Sungai Gerong-Plaju, South Sumatera, Indonesia

Gestión de recursos

Descripción general. Administración en el tiempo; administrando los recursos computacionales; administrando por objetivos y resultados; formación de instructores; proceso gerencial de desempeño; taller del desarrollo de la creatividad. *Fecha de iniciación:* Para ser acordado. *Duración:* 4-6 días. *Calificaciones:* Inglés, español, portugués. *Fecha límite para la recepción de las solicitudes:* 15 días antes. *Derechos de inscripción:* \$US 440-\$US 11,500.

Institución huésped: Dantus y Asociados
Séneca 429, 50 piso
Col. Polanco
11560 México, DF, México

Advanced production management

General description: Participants will learn to: identify organizational problems affecting performance at all levels; plan short- and long-term activities to avoid bottle-necks, set up and apply production targets; make optimum use of machine, materials and labour; maintain expected stock levels. *Commencing date:* November 1989. *Duration:* 2 weeks. *Qualifications:* Senior production and plant managers in the manufacturing, processing, extraction or agro-allied industries. English. *Last date for receipt of applications:* August 1989. *Fee:* N 1,320.

Host institution: Centre for Management Development (CMD)
PMB 21578
Ikeja, Nigeria

Audio-visual aids workshop

General description: Participants will learn to: identify suitable teaching aids; plan and produce different graphics for charts, slides, and hp transparencies; prepare simple visuals using cardboards instruments and colours for teaching. *Commencing date:* July 1989. *Duration:* 5 days. *Qualifications:* Management trainers and educators and other users of A-Ving. *Last date for receipt of applications:* May 1989. *Fee:* N 720.

Host institution: Centre for Management Development (CMD)
PMB 21578
Ikeja, Nigeria

Cash management for small business

General description: The objective of the course is to upgrade the level of management competence of small-scale industrialists to enable them to handle their business successfully. *Commencing date:* April, September 1989. *Duration:* 5 days. *Qualifications:* Small- and medium-scale industrialists. *Last date for receipt of applications:* February 1989. *Fee:* N 550.

Host institution: Centre for Management Development (CMD)
PMB 21578
Ikeja, Nigeria

EDP and setting up a new business

General description: The objective of the course is to motivate and encourage potential entrepreneurs to set up businesses of their own. *Commencing date:* May, July, October, November 1989. *Duration:* —. *Qualifications:* Prospective entrepreneurs. *Last date for receipt of applications:* April 1989. *Fee:* N 550.

Host institution: Centre for Management Development (CMD)
PMB 21578
Ikeja, Nigeria

Strategic management

General description: The objective of the course is to bring elements of decision-making close to the reality of business life. *Commencing date:* To be arranged. *Duration:* 5 days. *Qualifications:* Senior executives and decision-makers. *Last date for receipt of applications:* January 1989. *Fee:* N 1,000.

Host institution: Centre for Management Development (CMD)
PMB 21578
Ikeja, Nigeria

Training needs analysis and assessment

General description: The objective of the course is to enable participants to recognize the importance of the training function, to apply different methods analysing training needs and to differentiate between individual and organizational needs. *Commencing date:* February 1989. *Duration:* 5 days. *Qualifications:* Managers responsible for the assessment of organizational and employee needs. *Last date for receipt of applications:* December 1988. *Fee:* N 660.

Host institution: Centre for Management Development (CMD)
PMB 21578
Ikeja, Nigeria

Plant operations development, possibilities of computer applications

General description: Short courses on: CAD; CADD; computer application; industrial air-conditioning systems; industrial electronics; industrial maintenance; industrial relations for engineers; manufacturing management; project management; train the trainer. *Commencing date:* To be arranged. *Duration:* 4-6 days. *Qualifications:* Engineers. English. *Last date for receipt of applications:* 1 month before commencing date. *Fee:* \$US 400.

Host institution: Petroman
Enar Petrotech Services Ltd.
Musarrat Building, 1st floor
Sultan Ahmed Shah Road, Off: Shaheed-e-Millat Road
Karachi, Pakistan

Textile industry

General description: Short courses on: dyeing of synthetics blends; printing; quality control. *Commencing date:* To be arranged. *Duration:* 8-10 days. *Qualifications:* Textile chemistry; 3 years of experience. English. *Last date for receipt of applications:* —. *Fee:* —.

Host institution: Textile Industry Research and Development Centre
P.O. Box 479
Moulvi Tamizuddin, Khan Road
Karachi, Pakistan

Ensayos no destructivos

Descripción general: Líquidos penetrantes-I, magnetoscopia-I y ultrasonido-I. *Fecha de iniciación:* 7 noviembre 1989. *Duración:* 2 semanas. *Calificaciones:* Español. *Fecha límite para la recepción de las solicitudes:* 30 octubre 1989. *Derechos de inscripción:* S/. 8,000.

Institución huésped: Senati
Isidro Alcibar 298
Urb. Ingeniería
San Martín de Porres, Perú

Metrología dimensional

Descripción general: Generalidades; monografía profesional; útiles de medición; errores de medición; galgas patrones longitudinales; galgas patrones angulares; mesa de senos; proyector de perfil; rectitud, planitud y perpendicularidad; control de cilindros; rugosidad; evaluación. *Fecha de iniciación:* 5 septiembre 1969. *Duración:* 2 semanas. *Calificaciones:* Español. *Fecha límite para la recepción de las solicitudes:* 31 agosto 1969. *Derechos de inscripción:* S/. 8,000.

Institución anfitriona: Senati
Isidro Alcibar 298
Urb. Ingeniería
San Martín de Porres, Perú

Use of compressed air and hydraulic oil in machines

General description: Short courses on: basic pneumatics; advanced pneumatics; basic hydraulics; electrohydraulics control. *Commencing date:* To be arranged. *Duration:* 24-30 hours. *Qualifications:* Technician or engineering graduate; 1 year of experience in industry or a technical school. English. *Last date for receipt of applications:* 2 weeks before commencing date. *Fee:* P 2,200-P 2,500.

Host institution: Festo Didactic
La Fuerza Building
2241 Pasong Tamo
Makati, Metro Manila, Philippines

Enterprise management

General description: Short courses on: consumer goods marketing; enterprise evaluation in order to enter the stock-exchange; financial management of enterprises; human resources management; informatics; exportation; general management; management for industrial production; industrial maintenance; public relations; goals aimed management. *Commencing date:* To be arranged. *Duration:* 14-35 hours. *Qualifications:* Portuguese. *Last date for receipt of applications:* —. *Fee:* To be arranged.

Host institution: Coprai
Departamento de Produtividade, Formação Profissional e
Desenvolvimento Tecnológico da AIP
Praça das Indústrias
1399 Lisboa, Codex, Portugal

Non-destructive testing

General description: Short courses on: dimensional metrology; liquid penetrants and magnetic testing radiography; ultrasonic testing. *Commencing date:* To be arranged. *Duration:* 4 days-1 week. *Qualifications:* Technical staff. Portuguese. *Last date for receipt of applications:* —. *Fee:* —.

Host institution: Instituto de Soldadura e Qualidade
Universidade Nova de Lisboa
Faculdade de Ciências e Tecnologia
Lisboa, Portugal

AIT-UC Berkeley advance management programme for Asia-Pacific managers

General description: New course being developed. *Commencing date:* 24 July. *Duration:* 2 weeks. *Qualifications:* Bachelor's degree. *Last date for receipt of applications:* 1½ months before commencing date. *Fee:* \$US 2,500.

Host institution: CEC/AIT
P.O. Box 2754
Bangkok, Thailand

Fourth Asian School on computer science

General description: An annual course aimed at presenting the advances in computer technology to university professors and researchers. The School is prescribed by renowned computer experts. *Commencing date:* 5 December. *Duration:* 2 weeks. *Qualifications:* Bachelor's degree. *Last date for receipt of applications:* 1½ months before commencing date. *Fee:* \$US 800.

Host institution: CEC/AIT
P.O. Box 2754
Bangkok, Thailand

Constructions soudées

Description générale : Calcul, conception et fabrication des assemblages soudés; gestion de la qualité et de la production dans les constructions soudées. *Début du cours :* 14 mars 1989. *Durée :* 6 jours. *Qualifications :* Ingénieurs; techniciens supérieurs; chefs de contrôle de la qualité. *Dernier délai pour la soumission des candidatures :* 15 février 1989. *Droit d'inscription :* FF 3 000.

Organisme hôte : Le Cetime
El Menzah V BP 121
22, avenue d'Afrique
1080 Tunis, Cedex, Tunisie

Contribution des moyens de contrôle non destructifs à la maintenance

Description générale : Ressuage et magnétoscopie pour la détection des défauts superficiels ou sous-jacents; ultrasons pour le contrôle des épaisseurs; suivi de corrosion et fissuration; radiographie X et gammagraphie pour la détection des défauts. *Début du cours :* 6 novembre 1989. *Durée :* 12 jours. *Qualifications :* Ingénieurs et techniciens; 3 ans d'expérience dans un service maintenance ou contrôle. Français. *Dernier délai pour la soumission des candidatures :* 30 septembre 1989. *Droit d'inscription :* FF 9 000.

Organisme hôte : Le Cetime
El Menzah V BP 121
22, avenue d'Afrique
1080 Tunis, Cedex, Tunisie

Mécanique des matériaux métalliques

Description générale : Notions générales de métallurgie; les essais mécaniques de caractérisation des métaux; les différentes lois de comportement; les concentrations de contraintes; la mécanique des surfaces; les procédés de traitement de constructions et des pièces mécaniques. *Début du cours :* 3 octobre 1989. *Durée :* 3 jours. *Qualifications :* Ingénieurs; techniciens supérieurs, chefs de production. Français.

Dernier délai pour la soumission des candidatures : 1er septembre 1989. Droit d'inscription : FF 2,000.

Organisme hôte : Le Cetime
El Menzah V BP 121
22, avenue d'Afrique
1080 Tunis, Cedex, Tunisie

Beneficiation of iron ores

General description: Laboratory and semi-industrial investigation of methods of iron ore beneficiation. *Commencing date:* To be arranged. *Duration:* 14 days. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* —.

Host institution: Metalurški Institut "Hasan Brkić"
Zenica, Yugoslavia

Bookkeeping for small- and middle-scale enterprises

General description: Part I: Main and sectional bookkeeping; part II: Managing of bookkeeping department. *Commencing date:* 15 July, 1 August, 1 September. *Duration:* —. *Qualifications:* Part I, secondary education; part II, university degree. English. *Last date for receipt of applications:* 1 May. *Fee:* Part I, \$US 900; part II, \$US 1,200.

Host institution: Institute for Economics
University of Banja Luka
Banja Luka, Yugoslavia

Financial operation of small- and middle-scale enterprises

General description: Managing methods for current assets and financial aspects of optimizing reproduction processes. *Commencing date:* 15 July, 1 August, 1 September. *Duration:* —. *Qualifications:* University degree. English. *Last date for receipt of applications:* 1 May. *Fee:* \$US 1,200.

Host institution: Institute for Economics
University of Banja Luka
Banja Luka, Yugoslavia

Fourth Imeko seminar on measurements and tests of building materials and constructions

General description: The role of technological structure, measurements, standardization and quality control. *Commencing date:* 16 September 1989. *Duration:* 2 weeks. *Qualifications:* English. *Last date for receipt of applications:* April 1989. *Fee:* \$US 250.

Host institution: Institute for Developing Countries
8. Maja 82/II
41000 Zagreb, Yugoslavia

Gaming/simulation workshop on transfer of advanced manufacturing technology

General description: The workshop is designed to expand the understanding of technical and organizational problems of technology transfer, with emphasis on choice and implementation of advanced manufacturing technology. *Commencing date:* 15 June

1989. *Duration:* 4 days. *Qualifications:* English. *Last date for receipt of applications:* March 1989. *Fee:* \$US 500.

Organizer: Institute for Developing Countries
8. Maja #2/II
41000 Zagreb, Yugoslavia
in collaboration with
Multilogue
R.D. Duke & Associates Inc.
321 Parklake Avenue
Ann Arbor, MI 48103, United States of America

Marketing and the organization of marketing departments

General description: Methods of marketing; managing marketing departments of small- and medium-scale enterprises. *Commencing date:* 15 July, 1 August, 1 September. *Duration:* 2 weeks. *Qualifications:* University degree. English. *Last date for receipt of applications:* 1 May. *Fee:* \$US 1,200.

Host institution: Institute for Economics
University of Banja Luka
Banja Luka, Yugoslavia

Operation and maintenance of technical installations

General description: Boiler plants; shipping structures; water and electricity. *Commencing date:* To be arranged. *Duration:* —. *Qualifications:* Arabic, English, French, German. *Last date for receipt of applications:* —. *Fee:* —.

Host institution: Unioninvest
Centar za Obuku
Beogradska 1
71000 Sarajevo, Yugoslavia

Production of steels and alloys on semi-industrial scale

General description: Production of steels and alloys on a semi-industrial scale, with a possibility of access to industrial scale, and taking into consideration the restrictions relating to import of materials and equipment. *Commencing date:* To be arranged. *Duration:* 14 days. *Qualifications:* English. *Last date for receipt of applications:* —. *Fee:* —.

Host institution: Metalurški Institut "Hasan Brkić"
Zenica, Yugoslavia

