

**INTERNATIONAL INTEGRATED SERVICE DIGITAL NETWORK TELECOMMUNICATION ENGINEERING**

Sep. 6, '94 - Oct. 28, '94, 12 participants

国際ISDN通信技術

J-94-00457

- PURPOSE** The purpose of this course is to introduce the participants to fundamental knowledge about up-to-date International ISDN services and technologies such as digital transmission, digital switching, and user network interface, etc., through lectures and field trips.
- MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on introduction of theories mainly on the following subjects; (1) outline (a) new technology trends (b) outline of ISDN (c) broad band ISDN (2) basic technology and services (a) ISDN services (b) network operation (c) OSI (d) user-network interface (e) signalling system No. 7 (f) XC-31 FMBS (g) digital satellite communication system for ISDN (h) optical fiber transmission system (i) switching system terminals (j) ISDN layer/specification (k) terminals (3) related equipment (a) digital transmission (b) digital switching
- QUALIFICATION OF APPLICANT** (1) engineer engaged in the field of international telecommunication (2) person with a fundamental knowledge of digital communications (such as digital transmission principles of PCM, multiplexing, synchronization and digital switching) (3) between 26 and 42 years of age
- TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Kokusai Denshin Denwa Co., Ltd. (KDD) (3) KDD Engineering and Consulting Inc. (KEC)

**INTEGRATED SERVICES DIGITAL NETWORK COMMUNICATION BASIC ENGINEERING**

Jan. 10, '95 - Feb. 19, '95, 12 participants

ISDN基礎通信技術

J-94-00500

- PURPOSE** The purpose of the course is to provide engineers in the field of telecommunications with practical knowledge and techniques on the ISDN (Integrated Services Digital Network) basic technology, user-network interface, and peripheral technology necessary for introduction of ISDN services.
- MAIN FEATURES OF CURRICULUM** This course is designed to get the participants understanding; (1) outline of ISDN, network configuration, ISDN numbering plan, etc. (2) layer 1, 2, 3, circuit switching, packet switching, etc. (3) ISDN terminal, standardization trend, B-ISDN (ATM), etc. The major subjects are; (a) outline of ISDN (b) user-network interface (c) ISDN network (d) ISDN service (e) ISDN terminal equipment (f) ISDN implementation plan (g) practical study (UNI)
- QUALIFICATION OF APPLICANT** (1) university graduate majored in telecommunication or electrical engineering, or equivalent (2) under 40 years of age (3) working in telecommunication administration or common carrier organizations with at least three years of practical experience on their own switching systems
- TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Central Training Institute (CTI), Nippon Telegraph and Telephone Corporation (NTT)

**RURAL TELECOMMUNICATION ENGINEERING**

Feb. 7, '95 - Mar. 18, '95, 10 participants

ルーラル通信技術

J-94-00458

- PURPOSE** The purpose of the course is to introduce technological information on rural telecommunication systems to the participants so that they can acquire basic knowledge and skill concerning fundamental elements in making plans of actual networks in rural areas of their countries.
- MAIN FEATURES OF CURRICULUM** The first part of the curriculum includes lectures on rural telecommunication network designing method, and on various rural telecommunication systems. The second part is a drill practice, which is intended to simulate the rural telecommunication network designing augmented by the application of economic analysis.
- QUALIFICATION OF APPLICANT** (1) university graduate specialized in telecommunications or equivalent (2) in charge of network planning or so scheduled (3) under 45 years of age
- TRAINING INSTITUTIONS** (1) Tokyo International Center (TIC), JICA (2) New ITU Association of Japan, Inc. (NITU-AJ)

**CBT COURSEWARE DEVELOPMENT TECHNOLOGY FOR TELECOMMUNICATION**

Oct. 25, '94 - Dec. 4, '94, 8 participants

電気通信CAI教材作成技術

J-94-00459

- PURPOSE** The purpose of the course is to provide participants who are in charge of training at telecommunications training centers with a fundamental knowledge of CBT courses and the ability to develop CBT courseware. Through this course, participants will be able to learn the basic concepts of learning theory and practice of course analysis, design, development and implementation/evaluation methods.
- MAIN FEATURES OF CURRICULUM** The major subjects in this course are; (1) basic concepts of CBT theory (2) CBT project management (3) CBT storyboarding (4) CBT courseware production (5) latest information about CBT course development
- QUALIFICATION OF APPLICANT** (1) university graduate or equivalent (2) person with sufficient practical experience at their own telecommunications training center, and preferably familiar with personal computers (3) under 40 years of age
- TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Japan Telecommunications Engineering and Consulting Service (JTEC)

**TELEVISION PROGRAMME PRODUCTION  
ENGINEERING II**

Jan. 17, '95 - Mar. 12, '95, 10 participants

テレビジョン番組制作技術II

J-94-00495

- 1. PURPOSE** This course mainly covers programme production engineering, such as production in studio, outdoor and post production, etc. Participants can expect not only to get the latest information on TV engineering but also to improve their skills in programme production.
- 2. MAIN FEATURES OF CURRICULUM** The curriculum is mainly dedicated to advance participants' theoretical knowledge of TV facilities through lectures and practice on (1) video equipment, (2) TV cameras and solid-state image devices, (3) application of digital technique, (4) VTR and VTR editing, (5) special video effects and computer graphics, (6) latest broadcast technique, (7) direct satellite broadcasting. Several observation trips are organized to augment the lectures.
- 3. QUALIFICATION OF APPLICANT** (1) engineer serving in a broadcasting organization with at least five years of practical experience in TV engineering, or those who have knowledge of TV engineering enough to undergo this training course. It should be noted that this group training course is targeted for engineers. Programme directors are not appropriate to participate in this course. (2) university/college graduate or equivalent in electronic engineering
- 4. TRAINING INSTITUTIONS** (1) Tokyo International Center (TIC), JICA (2) NHK Communications Training Institute

**TELEVISION PROGRAMME PRODUCTION**

Sep. 20, '94 - Dec. 3, '94, 10 participants

テレビジョン番組制作

J-94-00496

- 1. PURPOSE** Producers and programme directors working for broadcasting stations in developing countries will be given opportunity to learn the general knowledge and technical skills of the programme production methods used in such as musical, cultural, dramatized and documentary production methods, and will receive suggestions for enriching their own TV programmes.
- 2. MAIN FEATURES OF CURRICULUM** The curriculum consists of lectures on general concepts of Educational Television, and various production techniques, practical training in programme production, and observation of actual production sites and local NHK stations.
- 3. QUALIFICATION OF APPLICANT** (1) serving in a broadcasting corporation directly and continuously as a producer or director with practical experience of two to seven years in the field of television programme production (2) under 35 years of age (3) university/college graduate or equivalent
- 4. TRAINING INSTITUTIONS** (1) Tokyo International Center (TIC), JICA (2) NHK Communications Training Institute

**TELEVISION ENGINEERING**

July 12, '94 - Sep. 24, '94, 10 participants

テレビジョン放送技術

J-94-00497

- 1. PURPOSE** The purpose of the course is to systematically introduce knowledge of television broadcasting technology to participants who are engaged in the field of television broadcasting in developing countries. The training covers the technology of color television cameras, VTRs, studio equipment, transmission and reception.
- 2. MAIN FEATURES OF CURRICULUM** Lectures cover such topics as (1) color TV fundamentals and operation and maintenance of broadcasting equipment, (2) programme production techniques, (3) application of digital techniques, (4) measurement and adjustment of broadcasting equipment and (5) recent technical development. Lectures are supplemented by practice. Field training in small groups are organized to enhance the programme.
- 3. QUALIFICATION OF APPLICANT** (1) engineer serving in a broadcasting organization with practical experience of three to five years in TV engineering (2) university/college graduate or equivalent in electronic engineering
- 4. TRAINING INSTITUTIONS** (1) Tokyo International Center (TIC), JICA (2) NHK Communications Training Institute

**TELEVISION SOCIAL EDUCATION  
PROGRAMME II**

Jan. 17, '95 - Mar. 12, '95, 10 participants

テレビジョン社会教育番組II

J-94-00498

- 1. PURPOSE** The purpose of this course is to introduce the production technologies and methods of NHK educational TV programmes to the producers and directors who are engaged in socially informative TV programme production. The training will focus on educational TV programme production. The participants are expected to renew their appreciation of the importance of education by TV, and to acquire necessary programme production techniques such as planning ability, manner of presentation, etc. In addition, the state-of-the-art technologies and the future prospects of the broadcasting field are also introduced.
- 2. MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on introduction of Japanese system and situation. The course mainly covers; (1) trends in social education TV program (2) methods of TV program production (a) issuing cues (b) "complete program" production method (3) production techniques (a) video location shooting (b) editing (4) new technology
- 3. QUALIFICATION OF APPLICANT** (1) serving and producing social education television programmes in a broadcasting corporation directly and continuously as a producer or director with practical experience of five to ten years (2) under 40 years of age
- 4. TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) NHK Communication Training Institute

**TELEVISION BROADCASTING MANAGEMENT II**

May 16, '94 - June 26, '94, 10 participants

テレビジョン放送管理II

J-94-00075

- PURPOSE** The purpose of this course is to contribute to the betterment of the television broadcasting management in the participating countries, by introducing Japanese experience in the development of the television broadcasting management, as well as the present television broadcasting activities and its equipment industries in Japan.
- MAIN FEATURES OF CURRICULUM** This course aims to present Japanese experiences in this field for a case study, and covers: (1) administration (2) management (3) engineering (4) comprehensive study
- QUALIFICATION OF APPLICANT** (1) staff in charge of management with rank higher than division-chief engaged in administrative or planning department of a television broadcasting organization (2) university/college graduate or equivalent (3) between 30 and 40 years of age
- TRAINING INSTITUTIONS** (1) Hachioji International Training Centre (HITC), JICA (2) International Cooperation Division, Communication Policy Bureau, Ministry of Posts and Telecommunications

**BROADCASTING EXECUTIVE'S SEMINAR II**

Nov. 9, '94 - Nov. 25, '94, 9 participants

放送幹部セミナーII

J-94-00139

- PURPOSE** The purposes of this seminar are to introduce Japanese experiences, in the process of broadcasting development as well as present broadcasting activities and its related industries in Japan, to the participants, and to examine common problems in the field and to seek solutions through lectures, discussions and observations.
- MAIN FEATURES OF CURRICULUM** This seminar covers the following themes; (1) broadcasting situation in the participating countries (2) outline of Japanese broadcasters (organizations, activities, finances, management in general, etc.) (3) personnel management and training (4) different types of broadcasting technologies and their utilization (5) role and utilization of broadcasting in education
- QUALIFICATION OF APPLICANT** director general or equivalent high-ranking official responsible for management or administration of broadcasting in governmental or operational organizations
- TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Communication Policy Bureau, Ministry of Posts and Telecommunications

**AUDIO BROADCASTING ENGINEERING**

July 12, '94 - Sep. 11, '94, 10 participants

音声放送技術

J-94-00405

- PURPOSE** The purpose of the course is to provide audio broadcasting engineers with theoretical and practical knowledge of the intermediate level of audio technique, and MW and FM transmitting, through lectures, exercises and practices.
- MAIN FEATURES OF CURRICULUM** Lectures and practice are provided upon (1) audio technique, (2) theory and practice of MW broadcasting, and (3) theory and practice of FM broadcasting. Field practice and observation trips to relevant broadcasting facilities are organized to enhance the curriculum.
- QUALIFICATION OF APPLICANT** (1) person in a technical line who has practical experience in the field of audio broadcasting enough (more than three years) to undergo this training course (2) between 25 and 35 years of age (3) college graduate or equivalent in audio broadcasting (4) to continue working in the above mentioned field after returning to home countries.
- TRAINING INSTITUTIONS** (1) Tokyo International Center (TIC), JICA (2) NHK Communications Training Institute

**AGRICULTURAL CO-OPERATIVES II**

May 9, '94 - July 10, '94, 17 participants

農業協同組合II

J-94-00007

- PURPOSE** The purpose of this course is to provide the participants engaged in the agricultural cooperative services with the necessary information on methods and techniques for promoting agricultural cooperative movement, by introducing the Japanese experience in this field, so that they would be able to contribute to the further development of agricultural cooperative movement in their respective countries.
- MAIN FEATURES OF CURRICULUM** This course consists of lecture/discussion mainly, and more than 30% of the program is allocated to field trip. Main topics are (1) agricultural production method through farm management group, (2) cooperative activities for improvement of home life of member farm households, and (3) measures for democratic operation/administration of agricultural cooperatives, and (4) measure for formulating longterm plan for agricultural development by agricultural cooperative and as exercises.
- QUALIFICATION OF APPLICANT** (1) university or professional school graduates who are now engaged in the offices of cooperative service (2) expected to work in the co-operative movement at least for more than five (5) years after participation in the course (3) under forty five (45) years of age
- TRAINING INSTITUTIONS** (1) Hachioji International Training Centre (HITC), JICA (2) Institute for Development of Agricultural Cooperation in Asia (IDACA)

**AGRICULTURAL EXTENSION SERVICES FOR LEADER II**

May 10, '94 - July 31, '94, 15 participants

農業普及指導者II

J-94-00008

- PURPOSE** The purpose of the course is to provide participants with opportunities to understand agricultural extension services in Japan through lectures, practice, and observation tours. The course is also designed to give the participants practical suggestions on the application of agricultural guidance, and to impart them with competence for leadership in agricultural guidance, through explanations of background, history, theory and practical methods of extension work.
- MAIN FEATURES OF CURRICULUM** The following major subjects will be covered in the course: (1) background of extension service (2) outline of extension service (3) practice of extension activities (4) cultivation and training of extension workers (5) agribusiness (6) Country Report
- QUALIFICATION OF APPLICANT** (1) administrator for agricultural extension service or subject-matter specialist (S.M.S.), engaged in training of extension workers, and have more than five years of occupational experience in this field (2) under 50 years of age (3) university graduate or equivalent
- TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Japan Agricultural Development and Extension Association (3) Extension and Education Division, Agricultural Production Bureau, Ministry of Agriculture, Forestry and Fisheries

**WOMEN LEADERS OF FARM HOUSEHOLD DEVELOPMENT**

Aug. 9, '94 - Oct. 29, '94, 12 participants

農家生活水準向上女性指導者

J-94-00406

- PURPOSE** The purpose of the course is to provide knowledge and technology related to the improvement of farm household lifestyles, and also to teach knowledge and technology necessary for rural women to develop their ability to utilize regional resources, such as agricultural products, etc.
- MAIN FEATURES OF CURRICULUM** This course includes a homestay program at Japanese families in addition to common forms of training such as lectures and practices. The course mainly covers the following themes: (1) utilization of existing agricultural products and resources in the region (2) human resources development (training and guidance) for rural women (3) improvement of living standard of farm households
- QUALIFICATION OF APPLICANT** (1) engaged in the improvement of rural living standards by developing women's abilities through planning and execution of instruction and training for persons such as rural women, agricultural extension officials and/or home living improvement extension officials in agricultural departments (2) female under 45 years of age and have experience of more than five years in this field
- TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Rural Home and Family Living Improvement Study Association (3) Agricultural Production Bureau, Ministry of Agriculture, Forestry and Fisheries
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (50 hours).

**RICE PRODUCTION**

Feb. 27, '95 - Oct. 27, '95, 7 participants

米生産

J-94-00010

- PURPOSE** The purpose of the course is to introduce practical knowledge and techniques of rice production to the participants who are engaged in agricultural extension or training of farmers.
- MAIN FEATURES OF CURRICULUM** This course consists of lectures, practices, experiments and study tours. It mainly covers: (1) lecture (a) rice agronomy (b) rice physiology (c) plant protection (d) soil and fertilizer (e) breeding (f) agricultural extension (g) farm economy (h) agricultural machinery (i) land improvement (2) practice and experiment (a) field experiment on specific subjects (b) laboratory experiments (c) field practices (3) study tour (a) farm household survey (b) agricultural research stations (c) agricultural cooperatives (d) extension offices (e) industries related to agriculture
- QUALIFICATION OF APPLICANT** Applicants should be: (1) technical official presently in charge of extension service of rice or training on rice (2) university graduate or equivalent (3) over 26 and under 35 years of age
- TRAINING INSTITUTIONS** Tsukuba International Agricultural Training Centre (TIATC), JICA
- REMARKS** A compulsory intensive Japanese language course will be conducted along with the technical training for three weeks (50 hours).

**PRODUCTION DU RIZ**

Feb. 27, '95 - Oct. 27, '95, 5 participants

米生産(仏語)

J-94-00350

- BUT DE STAGE** Le stage a pour but, le transfert de connaissances de la riziculture pratiquée au Japon, aux stagiaires, et l'amélioration de leur niveau technique par le biais d'expérimentations pratiques. Ainsi ils pourront contribuer à l'amélioration de la production du riz dans leur pays, par la diffusion des connaissances techniques acquises au Japon.
- DUREE** de Février 28, 1994 à Octobre 21, 1994
- NOMBRE DE PARTICIPANTS QUI SONT ACCEPTEE** Cinq (5) (Un participant d'un pays en principe)
- PROGRAMME DE FORMATION** Les cours seront dispensés sous forme de conférence (25%), d'empirience, des travaux pratiques (50%), des observations (20%) et de présentation de rapport d'expérimentation.
- QUALIFICATION DES CANDIDATS** Les candidats doivent être: (1) chargés des services de formation agricole ou de mise en valeur dans le domaine rizicole, (2) titulaire d'un diplôme universitaire ou équivalent (3) capables de parler et comprendre parfaitement le français (4) Agés de moins de 35 ans
- ORGANISME RESPONSABLE DU STAGE** Centre Internationale de Formation Agricole de Tsukuba (TIATC), JICA
- AUTRE** En règle générale, la langue française sera utilisée au cours du stage, lorsque le cours sera donné en japonais, l'interprète francophone se présentera. Le cours intensif de langue japonaise est organisé avant le stage de formation, pour trois semaines (50 heures).

**RICE CULTIVATION TECHNOLOGY**

Feb. 6, '95 - Nov. 3, '95, 8 participants

稲作技術

J-94-00291

1. **PURPOSE** The course is designed to introduce useful knowledge and new techniques in the field of rice to the participants who are engaged in research or education and to enable them master research methods.
2. **MAIN FEATURES OF CURRICULUM** This course consists of three major categories - lecture, experiment and field practice, and study tour. Knowledge and techniques of rice cultivation and method of research work are obtained. Above all, individual experiments are regarded as the utmost importance.
3. **QUALIFICATION OF APPLICANT** (1) presently engaged in the research work or education in the field of rice (2) university graduate or equivalent with occupational experience of more than five years in their specialities (3) between 27 and 40 years of age
4. **TRAINING INSTITUTIONS** Tsukuba International Agricultural Training Centre (TIATC), JICA
5. **REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for three weeks (50 hours).

**VEGETABLE CROPS PRODUCTION II**

Feb. 27, '95 - Sep. 22, '95, 9 participants

野菜生産II

J-94-00120

1. **PURPOSE** The purpose of this course is to introduce participants to the scientific knowledge and technology of vegetable crops cultivation through their own observation of crops so that they can modify the technology they have acquired and apply it to the respective condition.
2. **MAIN FEATURES OF CURRICULUM** This course consists of lectures, experiments, practices and observations in study tours, on major vegetable crops in Japan. The emphasis is put on experiments and practices in the field and laboratory in this course. In addition, individual experiments will be conducted by the participants. The main themes are: (1) applicable method of intensive growing of major vegetable crops (2) fundamental knowledge on plant physiology, plant protection and soil in relation to high yielding in vegetable crops (3) principal matters pertaining to rationalization of vegetable marketing and circulation
3. **QUALIFICATION OF APPLICANT** (1) presently engaged in vegetable crops production, in the field of research, extension, education or administration (2) university graduate with the occupational experience of more than three years in their specialities (3) over 27 and under 37 years of age
4. **TRAINING INSTITUTIONS** Tsukuba International Agricultural Training Centre (TIATC), JICA
5. **REMARKS** An intensive Japanese language course will be conducted prior to the technical training for ten days (50 hours).

**VEGETABLE SEED PRODUCTION**

Feb. 6, '95 - Nov. 23, '95, 9 participants

野菜採種

J-94-00292

1. **PURPOSE** The purpose of this course is to bring up agricultural engineers on vegetable seed production having a broad viewpoint and scientific knowledge both in theory and technology, through lectures on specialized subjects, experiments and practices on major vegetables and various study tours.
2. **MAIN FEATURES OF CURRICULUM** This course consists of lectures, experiments, practices and observations in study tours, on major vegetable crops in Japan. The emphasis is put on experiments and practices in the field and laboratory. In addition, individual experiments will be conducted by the participants. The main themes are: (1) seed production method of major vegetable crops (2) seed technology on sorting, drying, storage and germinating of vegetable seeds (3) applicable method of varietal improvement of major vegetable crops
3. **QUALIFICATION OF APPLICANT** (1) presently engaged in vegetable seed growing, seed technology or varietal improvement (2) university graduate with occupational experience of more than three years in their field of speciality (3) over 27 and under 37 years of age
4. **TRAINING INSTITUTIONS** Tsukuba International Agricultural Training Centre (TIATC), JICA
5. **REMARKS** An intensive Japanese language course will be conducted prior to the technical training for fifteen days (50 hours).

**SUGAR CANE CULTIVATION**

June 23, '94 - Feb. 26, '95, 5 participants

サトウキビ栽培

J-94-00322

1. **PURPOSE** The purpose of this course is to introduce the participants to extensive knowledge and technology necessary for improving the productivity of sugar cane through lectures, experiments, practices and observation tours.
2. **MAIN FEATURES OF CURRICULUM** This course consists of common subjects for all participants and individual work in the laboratory and field. Each participant is to take one of the following subjects for their individual work. (1) sugarcane breeding (2) soil management and conservation (3) sugarcane insect pests and their control
3. **QUALIFICATION OF APPLICANT** (1) presently engaged in research work or extension service in the field of sugar cane cultivation (2) university graduate or equivalent (3) under 35 years of age
4. **TRAINING INSTITUTIONS** (1) Okinawa International Centre (OIC), JICA (2) Okinawa Prefectural Agricultural Experiment Station
5. **REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for eight weeks (225 hours).

## PESTICIDE UTILIZATION AND SAFETY

Mar. 20, '95 - Aug. 30, '95, 6 participants

農薬の利用と安全性

J-94-00237

- 1. PURPOSE** The purpose of the course is to provide graduates who majored in plant protection (agricultural chemistry, plant pathology, entomology, weed science or environmental science and toxicology) in a university or the equivalents with fundamental and practical knowledge required for the safe use of pesticides for crops and environment protection. The course aims at upgrading their capability of selecting the most effective pesticide for a given pest, applying it at the most appropriate time and employing the most adequate application method. It also aims at assaying the pesticide residues in agricultural products and in the environment in order to evaluate the safety of pesticides.
- 2. MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on introduction of comprehensive knowledge on the following subjects through lecture, practice and field trip. (1) administration and laws pertaining to the use of pesticides (2) bioassay of pesticides (3) exposition of pesticides (4) pesticides in crops, foods and environment (5) application and application equipments (6) new technology
- 3. QUALIFICATION OF APPLICANT** (1) university graduate or equivalent (2) qualified in their respective fields (3) occupational experience of more than three years (4) between 26 and 40 years of age
- 4. TRAINING INSTITUTIONS** (1) Hyogo International Centre (HIC), JICA (2) Department of Plant Protection, Faculty of Agriculture, Kobe University (3) Hyogo Prefectural Agricultural Institute (4) National Institute of Hygienic Sciences, Osaka Branch
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (50 hours).

## PLANT GENETIC RESOURCES

May 9, '94 - Nov. 4, '94, 6 participants

植物遺伝資源

J-94-00275

- 1. PURPOSE** This course is designed to contribute to upgrading knowledge and skill of the junior researchers in the field of plant genetic resources, so as to train participants to be capable of playing important roles in collection and preservation of plant genetic resources in their own countries.
- 2. MAIN FEATURES OF CURRICULUM** This course consists of common subjects for all participants and individual training (5 months) in the laboratory. Each participant is to take one of the following subjects for their individual research; (1) utilization of tissue culture technique in wheat breeding (2) DNA diversity in oryza species (3) DNA tagging of some genes in rice (4) preservation of fruit tree pollen (5) seedbank management (6) seed pathology (7) identification, and characterization of microorganisms associated with PGR (8) cryopreservation of cultured cells, meristems, recalcitrant seeds and pollen (9) genetic studies on hybrid rice breeding (10) evaluation of chilling tolerance/cold hardiness and study on the mechanism of varietal differences.
- 3. QUALIFICATION OF APPLICANT** (1) university graduate or equivalent (2) presently engaged in research work in the field of plant genetic resources with more than three years' experience (3) over 25 and under 35 years of age
- 4. TRAINING INSTITUTIONS** (1) Tsukuba International Agricultural Training Centre (TIATC), JICA (2) National Institute of Agrobiological Resources (NIAR)
- 5. REMARKS** (1) A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (50 hours).

## INTEGRATED PEST MANAGEMENT FOR PLANT PROTECTION

June 2, '94 - Sep. 25, '94, 7 participants

植物保護のための総合防除

J-94-00503

- 1. PURPOSE** The course is designed to upgrade knowledge and skill of the participants in the field of plant protection, so as to train technical officials capable of playing practical roles in this field.
- 2. MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on introduction of comprehensive knowledge on the following subjects through lecture, practice and field trip: (1) characteristics of host plants, pest and pathogen, environmental factors and the mutual relationships between the three (2) integrated pest management (3) individual studies: laboratory of plant pathology, entomology, genetics, agrochemical science (4) group studies: transplanting
- 3. QUALIFICATION OF APPLICANT** (1) technical official presently in charge of plant protection in government, local bodies or college staff with three years or more experience in this field, (2) university graduate (3) above 25 and under 35 years of age
- 4. TRAINING INSTITUTIONS** (1) Hyogo International Centre (HIC), JICA (2) Department of Plant Protection, Faculty of Agriculture, Kobe University (3) Agricultural Experiment Station, Hyogo Prefectural Agricultural Institute
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for about 40 hours.

## PLANT QUARANTINE (DISINFESTATION OF FRUIT FLIES)

May 12, '94 - Oct. 17, '94, 5 participants

植物検疫(ミバ工類殺虫技術)

J-94-00407

- 1. PURPOSE** The course is designed to introduce the advanced technique required for disinfestation of fruit flies to the participants who are engaged in plant quarantine. It is also hoped that this course will ultimately contribute to the promotion of fruit and vegetable exports. The method of fruit fly eradication and the applicability of the method in each country will be also introduced and examined in the course.
- 2. MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on lectures, workshop practice and field trips. The main themes are: (1) plant quarantine in Japan (2) morphology and taxonomy of fruit flies (3) physiology and ecology of fruit flies (4) artificial rearing of fruit flies (5) disinfestation method of fruit flies (outline) (6) disinfestation test by vapor heat treatment and cold treatment (7) injury test of fruit by vapor heat treatment and cold treatment (8) eradication of fruit flies
- 3. QUALIFICATION OF APPLICANT** (1) university graduate or equivalent (2) having experience in plant quarantine works and having sufficient knowledge about pests such as fruit flies (3) being presently engaged in the disinfestation programme of fruit flies or will be engaged in it as a technical expert (4) being not exceeding 40 years of age
- 4. TRAINING INSTITUTIONS** (1) Okinawa International Centre (OIC), JICA (2) Naha Plant Protection Station, Ministry of Agriculture, forestry and Fisheries (3) Fruit-fly Eradication Project Office, Okinawa Prefectural Government
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for seven weeks (175 hours).

## SOIL ANALYSIS AND IMPROVEMENT

May 26, '94 - Aug. 12, '94, 6 participants

土壤分析改良

J-94-00408

- 1. PURPOSE** The course is designed for specialists and technicians of soil analysis to be leaders in their fields by providing basic and practical knowledge about the technique essential to strengthening soil analysis and soil-improvement technique for maintaining higher agricultural food production, and to contribute to international relationship and the promotion of science.
- 2. MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on introduction of Japanese experience and basic theories of soil analysis and improvement including laboratory experiments by participants. (1) general method of soil analysis and improvement (2) high technique of soil analysis by optical instruments (3) method of soil reforming based on organic and inorganic fertilizers (4) soil improvement systems using computers
- 3. QUALIFICATION OF APPLICANT** (1) presently engaged in soil analysis or have experience in soil improvement (soil analysis includes fertilizer, water quality or plant nutrition) (2) neither expert nor beginner in the field of soil analysis, and have at least two-years experience in this field (3) over 25 and under 45 years of age
- 4. TRAINING INSTITUTIONS** (1) Hokkaido Branch Office, JICA (2) Obihiro River Sewerage Treatment Plant (The City of Obihiro supports and assists the course throughout the duration along with the Obihiro University and other institutions.)

## EFFECTIVE UTILIZATION OF TROPICAL AGRICULTURE AND FORESTRY RESOURCES

July 14, '94 - Mar. 20, '95, 5 participants

熱帯農林資源の有効活用

J-94-00326

- 1. PURPOSE** The purpose of the course is to introduce participants to the concept, research and technique of the cultivation system of tropical agricultural production and the effective utilization of biological resources in the tropics, through lectures, experiments, practices and observation tours.
- 2. MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on lectures, discussions, indoor experiment, practices, field practices and observation tours. The main themes are: (1) technical application to the study of horticultural crop production and marketing (a) photosynthesis and biotechnology (b) green-house techniques and hydroponics culture (c) nature farming (2) fundamental techniques for forest management and utilization of wood (a) stand structure and mensuration (b) silvicultural operation system (c) forest policy and economy (d) physical properties of wood (e) chemical properties of wood
- 3. QUALIFICATION OF APPLICANT** (1) have experience of more than three years' laboratory research (2) have been engaged in research work (3) university graduate or equivalent (4) under 41 years of age
- 4. TRAINING INSTITUTIONS** (1) Okinawa International Centre (OIC), JICA (2) College of Agriculture, University of the Ryukyus
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for five weeks (130 hours).

## ENVIRONMENTAL PLANNING AND MANAGEMENT IN AGRICULTURAL AND RURAL DEVELOPMENT

Sep. 6, '94 - Nov. 26, '94, 21 participants

農業・農村開発環境保全

J-94-00474

- 1. PURPOSE** The purpose of the training course is to provide improvement of planning and implementation technology of engineers for agricultural and rural development projects mainly composed of irrigation and drainage, and agricultural land development. This training course is the general course that focuses on the introduction of agricultural and rural development under the consideration with environmental aspects.
- 2. MAIN FEATURES OF CURRICULUM** This course mainly covers the following themes. (1) environmental considerations in survey, planning, design and implementation of agricultural and rural development projects (2) conservation technology for agricultural and rural development projects and environmental management and policies in Japan
- 3. QUALIFICATION OF APPLICANT** (1) presently engaged in agricultural engineering (irrigation and drainage or rural development of agriculture) and have more than seven years of occupational experience in the field of the irrigation and drainage or rural development of agriculture (2) under 45 years of age (3) university graduate or equivalent
- 4. TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Japanese Institute of Irrigation and Drainage (JIID) (3) Agricultural Structure Improvement Bureau, Ministry of Agriculture, Forestry and Fisheries

## DISTRIBUTION OF FRESH FRUITS AND VEGETABLE

Sep. 5, '94 - Nov. 30, '94, 7 participants

青果物流通

J-94-00484

- 1. PURPOSE** This course aims at giving opportunities to the participants to learn various aspects related to fresh food distribution both by theory and practice. By the end of the training period, the participants are expected to: (1) have acquired thorough knowledge on the development process of the wholesale market through the study of Japanese cases (2) have learned how the distribution systems are managed under the integrated rules based on the law concerning the wholesale market, and how the market system functions presently (3) have learned production techniques and shipping systems at the producing districts, and retail sales techniques at the consumption districts
- 2. MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on introduction of Japanese experience and basic theories of distribution of fresh fruits and vegetables. The main themes are: (1) lectures (a) wholesale market (b) producing district (c) retail (d) consumer (e) distribution of meat (f) distribution of marine products (2) practical training (a) wholesale market (3) field training (a) retail market and large scale retail store (b) producing districts
- 3. QUALIFICATION OF APPLICANT** (1) administrator in charge of implementation of modernization measures for fresh food distribution, with practical experience of at least five years (2) under 40 years of age
- 4. TRAINING INSTITUTIONS** (1) Osaka International Centre (OSIC), JICA (2) Osaka International House Foundation (3) Central Wholesale Market, Economic Affairs Bureau, Osaka Municipal Government
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for one week.

**IRRIGATION AND DRAINAGE II**

Feb. 13, '94 - Nov. 24, '95, 11 participants

灌漑排水II

J-94-00093

1. **PURPOSE** The purpose of this course is to introduce systematically to civil engineers who are engaged in land improvement works, scientific knowledge and technology of small scale irrigation and drainage schemes.
2. **MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on practice. The main practice are; (1) soil mechanics (2) hydraulics (3) concrete (4) irrigation water requirement (5) survey
3. **QUALIFICATION OF APPLICANT** (1) presently engaged in practical works in irrigation and drainage (2) university graduate or equivalent with occupational experience of more than five years in their field
4. **TRAINING INSTITUTIONS** Tsukuba International Agricultural Training Centre (TIATC), JICA
5. **REMARKS** An intensive Japanese language course will be conducted prior to the technical training for three weeks (50 hours).

**AGRICULTURAL LAND AND WATER RESOURCES DEVELOPMENT II**

May 31, '94 - July 23, '94, 16 participants

農地水資源開発II

J-94-00159

1. **PURPOSE** The purposes of this course are to provide senior engineers in the field of agricultural land and water resources development with opportunities to learn about advanced agricultural land and water resources development technology in Japan and to increase their capability to make plans for agricultural and rural development projects (including planning, designing, and execution).
2. **MAIN FEATURES OF CURRICULUM** This course covers the following themes. (1) concept and ideas of agricultural land and water resources development (2) engineering aspects of agricultural land and water resources development (3) agricultural and rural development projects (a) method of planning and implementation (b) design criteria and standard for irrigation and drainage facilities (4) current situation and prospect of agricultural land and water resources development in the world (5) utilization of computer technology for agricultural land and water resources development
3. **QUALIFICATION OF APPLICANT** (1) presently engaged either in the task of agricultural land and water resources development or irrigation and drainage and have more than ten years of occupational experience in this field (2) under 50 years of age (3) university graduate or equivalent
4. **TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Japanese Institute of Irrigation and Drainage (3) Agricultural Structure Improvement Bureau, Ministry of Agriculture, Forestry and Fisheries
5. **REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (50 hours).

**IRRIGATION WATER MANAGEMENT**

May 9, '94 - Nov. 3, '94, 9 participants

水管理

J-94-00348

1. **PURPOSE** The purpose of this course is to introduce systematically to the civil engineers who are engaged in water management, scientific knowledge and technology of water management with gate operation, design of water management facilities for rice cultivation mainly.
2. **MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on practice. The main practice are; (1) hydraulic model simulation in open canal by using computer (2) design of irrigation facilities
3. **QUALIFICATION OF APPLICANT** (1) presently engaged in practical work in water management (2) university graduate or equivalent with occupational experience of more than five years in their field (3) between 25 and 35 years of age.
4. **TRAINING INSTITUTIONS** Tsukuba International Agricultural Training Centre (TIATC), JICA
5. **REMARKS** An intensive Japanese language course will be conducted prior to the technical training for two weeks (25 hours).

**WATER RESOURCES DEVELOPMENT AND ITS USE IN ARID AREAS**

Aug. 8, '94 - Nov. 21, '94, 8 participants

乾燥地水資源の開発と利用

J-94-00409

1. **PURPOSE** The purpose of the course is to enable the participants who are in charge of water resources development in arid and semi-arid areas to acquire the basic knowledge and technique for the development of water resources and effective use of water in the field of agriculture, thereby contributing to the solution of the problems which arise from the shortage of water and hence food in those areas.
2. **MAIN FEATURES OF CURRICULUM** In this course the emphasis is put on report presentation, lectures which introduce Japanese experience of agricultural practice and water resources use at arid or sandy area, and discussion by participants. It mainly covers: (1) national environment of arid areas (2) run-off analysis (3) river and groundwater engineering (4) facilities of water storage and water supply (5) agriculture practice of arid areas (6) irrigation, drainage and water quality (7) water management (8) water resources planning
3. **QUALIFICATION OF APPLICANT** (1) presently engaged in either research or educational activity and have more than two years of occupational experience in this field (2) university graduate or equivalent (3) not more than 40 years of age.
4. **TRAINING INSTITUTIONS** (1) Chugoku Branch Office, JICA (2) Tottori University
5. **REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (50 hours)



## FARM MECHANIZATION II

Feb. 20, '95 - Nov. 24, '95, 9 participants

農業機械化II

J-94-00050

- PURPOSE** The purpose of the course is to systematically introduce the scientific knowledge and technology on farm mechanization such as effective selection, introduction and utilization of farm machinery, and systematic mechanized farming in the extension field.
- MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on the field and laboratory experiments on farm mechanization for paddy cultivation and for upland crop cultivation. It mainly covers: (1) field performance tests of farm machinery and analysis of the result before its introduction to their countries (2) mechanization planning and its evaluation process, and applicable knowledge concerned with farm mechanization system (3) accurate and safety utilization method of measuring instruments and tools (4) experiment method such as field performance test of farm machinery under the existing conditions at the necessary level (5) technical know-how on trouble shooting and minor repair of farm use engine (6) safety operation and maintenance technique of farm machinery (7) study on micro-computer for experiments and farm mechanization system analysis
- QUALIFICATION OF APPLICANT** (1) university graduate or equivalent (2) agricultural engineer and/or agronomist having more than three years experience on farm mechanization (3) between 27 and 40 years of age
- TRAINING INSTITUTIONS** Tsukuba International Agricultural Training Centre (TIATC), JICA
- REMARKS** (1) A compulsory intensive Japanese language will be conducted prior to the technical training for two weeks (50 hours). (2) During training period the participants are to join the annual meeting of Japanese Society of Agricultural Machinery.

## FARM MACHINERY DESIGN

Feb. 6, '95 - Oct. 27, '95, 9 participants

農業機械設計

J-94-00276

- PURPOSE** The purpose of the course is to introduce scientific knowledge and technology on designing, trial making and performance testing of farm machinery, mainly for crop production, which is adoptable to the participants' country conditions.
- MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on the actual designing and trial making of farm machinery and performance testing of trial-made machinery. The main themes are: (1) mechanism and performance of farm machinery and farm energy such as windmill and solar-dryer (2) designing methodology, trial-making process and testing methodology of trial-made farm machinery (3) accurate and safety utilization method of measuring instruments, tools and applicable utilization of micro-computer (4) analyzing and processing methodology of metallic and other materials concerned of manufacturing farm machinery (5) report making and presentation for symposium (6) study tour to university, research institutes and farm machinery manufacturing companies
- QUALIFICATION OF APPLICANT** (1) university graduate from faculty of agricultural engineering or mechanical engineering (2) design engineer or research engineer with experience of more than three years in the design, research or development of farm machinery (3) between 27 and 42 years of age
- TRAINING INSTITUTIONS** Tsukuba International Agricultural Training Centre (TIATC), JICA.
- REMARKS** (1) A compulsory intensive Japanese language will be conducted prior to and along with the technical training for two weeks (50 hours), (2) during the training period the participants are to join and present the report at the annual meeting of Japanese Society of Agricultural Machinery.

## AGRICULTURAL MACHINERY MANAGEMENT

May 9, '94 - Nov. 17, '94, 10 participants

農業機械管理

J-94-00433

- PURPOSE** This course is designed for leading agricultural engineers in the field of agricultural machinery management, as an opportunity to acquire the following knowledge and skills: (1) better understanding of agricultural machinery performance (2) selection of agricultural machinery appropriate to the operation area, soil quality and variety of crops (3) improvement of managerial ability, i. e. cost analysis, etc. (4) practical knowledge on agricultural machinery maintenance and repair (5) ability to instruct others in workshop management (Notice: the agricultural machinery in this course is especially for rice cultivation.)
- MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on the workshop practice and lectures at agricultural machinery companies. The main themes are: (1) principal agricultural machinery (a) fundamentals of mechanical engineering (b) principles and structure of agricultural components (c) disassembling, reassembling and maintenance (d) field operation (2) agricultural machinery management (a) farm mechanization planning, machine selection, cost analysis, mechanized farming system, working management, etc.
- QUALIFICATION OF APPLICANT** (1) leading agricultural engineer with at least three years experience in the field of agricultural machinery management and/or instruction in their respective organizations (2) over 30 and under 45 years of age (3) university graduate or equivalent
- TRAINING INSTITUTIONS** (1) Osaka International Centre (OSIC), JICA (2) Kyoto University (3) some Japanese agricultural machinery companies
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for one week.

## FARM MACHINERY TESTING

Feb. 27, '95 - June 23, '95, 10 participants

農業機械評価試験

J-94-00446

- PURPOSE** The purpose of this course is to introduce systematically the knowledge and technology required for the testing and evaluation of agricultural machinery.
- MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on the actual testing and evaluating methodology of agricultural machinery. The actual testing practices are conducted under the authorized testing code. The main themes are: (1) testing and evaluation of agricultural machines to determine the performance characteristics, rate of work, durability, safety, ease of operation (2) testing and evaluation method in laboratory and field (3) accurate utilization of testing and measuring instruments (4) data acquisition, data processing and data analyzing by micro-computer (5) agricultural machinery testing system and administration (6) agricultural mechanization features (7) study tour to university, research institutes and farm machinery manufacturing companies.
- QUALIFICATION OF APPLICANT** (1) university graduate in agricultural engineering or mechanical engineering (2) test engineer or qualified engineer in testing of agricultural machinery with experience of more than three years (3) between 25 and 50 years of age
- TRAINING INSTITUTIONS** (1) Tsukuba International Agricultural Training Centre (TIATC), JICA (2) Bio-oriented Technology Research Advancement Institution (BRAIN) (3) Institute of Agricultural Machinery (IAM)
- REMARKS** (1) A compulsory intensive Japanese language will be conducted prior to the technical training for two weeks (50 hours). (2) During training period the participants are to join the annual meeting of Japanese Society of Agricultural Machinery.

## POST-HARVEST RICE PROCESSING

Aug. 25, '94 - Nov. 23, '94, 10 participants

米の収穫後処理技術

J-94-00514

- PURPOSE** The purpose of the course is to contribute to the planning, guidance and extension of the technical improvement in this field in the government and the public organizations of each country. It also aims to contribute to the improvement in effective processing technology and to prevent quantitative and qualitative losses by giving participants the knowledge and information on post-harvest rice processing in Japan, namely harvesting, drying, husking, grading, inspection, storage, milling, utilization of by-products, etc.
- MAIN FEATURES OF CURRICULUM** The following major subjects will be covered in the course. (1) rice production and marketing (2) characteristics of rice (indica and japonica subspecies) (3) harvesting, threshing and drying - machinery operation (4) storage - facility control and management (5) milling - machinery/equipment operation (6) quality control and inspection - system and testing equipment (7) utilization of by-products (husks, bran and brokens).
- QUALIFICATION OF APPLICANT** (1) senior technical administrator in government or public organizations engaged in planning and promoting the improvement of all post-harvest rice processes (not be researcher, instructor or professor at college or university) (2) under 45 years of age (3) university graduate or equivalent
- TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Japan Grain Inspection Association (3) Ministry of Agriculture, Forestry and Fisheries

## POULTRY PRODUCTION AND BREEDING TECHNOLOGY

May 23, '94 - Sep. 27, '94, 8 participants

鶏育種・生産技術

J-94-00061

- PURPOSE** Although the course is named "Poultry Production and Breeding Technology", it should be noted that in Japan, "poultry industry" is almost a synonym of "chicken industry". Thus the course is designed to provide the participants with knowledge and technology on chicken. The purpose of the course is to transfer basic and practical knowledge and technique on chicken to the personnel engaged in the chicken industry in their own countries. It should be particularly emphasized that the course will train practical technicians engaged in directly instructing farmers, not researchers or administrators.
- MAIN FEATURES OF CURRICULUM** In this course, participants are expected to be able to acquire knowledge and technique in the following areas. (1) feeding and management (2) breeding (3) other peripheral techniques of production and breeding
- QUALIFICATION OF APPLICANT** (1) presently in charge of poultry raising activities, with more than two years' experience in this field (2) university graduate or equivalent with occupational experience (3) over 26 and under 40 years of age
- TRAINING INSTITUTIONS** (1) Tohoku Branch, JICA (2) National Livestock Breeding Centre, Ministry of Agriculture, Forestry and Fisheries

## BREEDING AND ARTIFICIAL INSEMINATION IN CATTLE

Feb. 6, '95 - May 26, '95, 8 participants

牛育種・人口授精

J-94-00494

- PURPOSE** The purpose of this course is to provide participants with basic knowledge and practical techniques coupled with the latest information on cattle breeding, knowhow of A. I. (artificial insemination) and its administration system and thus to assist them in designing their own systems in their respective countries.
- MAIN FEATURES OF CURRICULUM** This course consists of common subjects for all participants and research work at laboratory and field. All participants are to take the following subjects. (1) general aspects of livestock industries (2) cattle breeding (3) artificial insemination (4) extension of artificial insemination (5) deep frozen semen (6) reproductive disorder (7) cattle management
- QUALIFICATION OF APPLICANT** (1) university graduate or equivalent with practical experience (2) presently engaged in livestock administration, holding veterinary licenses of artificial inseminator's licenses; (3) under 40 years of age (4) will be engaged in systematic development and promotion after absorbed from this training.
- TRAINING INSTITUTIONS** (1) Tohoku Branch, JICA (2) National Livestock Breeding Center, Ministry of Agriculture, Forestry and Fisheries

## EMBRYO TRANSFER FOR CATTLE

July 11, '94 - Oct. 28, '94, 6 participants

受精卵移植技術

J-94-00317

- PURPOSE** The purpose of the course is to provide the latest ET (embryotransfer) technique in Japan for livestock breeding personnel in countries faced with such necessities, and ultimately to contribute to the progress of animal industry by the application and improvement of the techniques under their respective countries' condition. The course provides basic theory and practical use of ET as well as its administration.
- MAIN FEATURES OF CURRICULUM** The course will consist mainly of lectures and practical training, in which the Centre staff and visiting professionals will give expertise and instruction on the respective subjects. This will be supplemented by observation trips to the related agencies and institutions. The subjects are as follows: (1) general aspects of livestock industry (2) cattle breeding and reproduction (3) feeding management for cattle (4) artificial insemination (5) embryo transfer
- QUALIFICATION OF APPLICANT** (1) \*hold veterinarian's license, or artificial inseminator's license, and have sufficient experience and knowledge about artificial insemination technique (2) university graduate or equivalent (3) staff member of institute or university that participates in the improvement of animal reproduction (4) over 25 and under 40 years of age, in principle \*In this course, a non-surgical method is applied for practice drills in recovery and transplantation of embryo. This method requires applicants to have enough knowledge of, and have at least three years practical experience in AI.
- TRAINING INSTITUTIONS** (1) Tohoku Branch, JICA (2) National Livestock Breeding Center, Ministry of Agriculture, Forestry and Fisheries
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for 3 weeks.

**TWINNING AND INVITRO FERTILIZATION TECHNOLOGY FOR CATTLE**

Sep. 5, '94 - Dec. 9, '94, 6 participants

双子生産・体外授精技術

J-94-00444

- PURPOSE** The purpose of the course is to provide the latest technique of twinning and IVF (for cattle) in Japan to technical specialists in animal reproduction from countries that need such technology and to contribute to the progress of livestock industries. The participants are expected to apply and improve upon the technique introduced in this course so as to adapt it to the situation in their respective countries.
- MAIN FEATURES OF CURRICULUM** The course will consist mainly of lectures and practical training, in which the Centre staff and visiting professionals will give expertise and instruction on the respective subjects. This will be supplemented by observation trips to the related agencies and institutions. The subjects are as follows: (1) general aspects of livestock industry in Japan (2) embryo transfer (ET) (3) twinning (4) in vitro fertilization
- QUALIFICATION OF APPLICANT** (1) \*hold veterinarian's license, or artificial inseminator's license, and have sufficient experience and knowledge in the field of animal reproduction (2) university graduate or equivalent \*Twinning and IVF techniques are based on ET techniques. In this course, a non-surgical method is applied for practice drills in recovery and transplantation of embryo. This method requires proficiency in artificial insemination (AI) by the Rect-vaginal method. Therefore, applicants must have enough knowledge of, and have at least three years' practical experience in AI.
- TRAINING INSTITUTIONS** (1) Tohoku Branch, JICA (2) National Livestock Breeding Center, Ministry of Agriculture, Forestry and Fisheries

**DAIRY FARMING AND RELATED INDUSTRIES**

Aug. 25, '94 - Nov. 16, '94, 5 participants

酪農振興・検査技術

J-94-00334

- PURPOSE** The course is designed to train dairy specialists and technicians to be leaders in their fields, by providing basic, practical knowledge about the technique essential to strengthening dairy farming such as livestock health inspection techniques, sanitary methods and inspection techniques for maintaining meat and milk quality, etc., and to contribute to international relationships and the promotion of science.
- MAIN FEATURES OF CURRICULUM** This course consists of common subjects for all participants and elective specialized subjects. The followings are main items in common subjects. (1) feeding, management and reproduction in dairy cattle (2) diseases and their prevention in dairy cattle (3) improvement of sanitary conditions for housing and equipment (4) processing of meat and milk, and inspection techniques. Participants will be divided into two groups to cover one of the following subjects: (1) quality tests and sanitary inspection techniques in meat and milk products (2) animal husbandry techniques
- QUALIFICATION OF APPLICANT** (1) engaged in fields related to animal husbandry (2) university graduate or equivalent (3) over 25 and under 40 years of age
- TRAINING INSTITUTIONS** (1) Hokkaido Branch Office, JICA (2) Obihiro University of Agriculture and Veterinary Medicine

**REFORESTATION TECHNIQUES AND FOREST MANAGEMENT**

July 12, '94 - Oct. 20, '94, 15 participants

森林造成技術者

J-94-00198

- PURPOSE** The purpose of this course is to upgrade the planning capacity of senior forestry officials for reforestation and forest management, by introducing Japanese reforestation techniques and forest management system as well as discussing the problems which participating countries confront.
- MAIN FEATURES OF CURRICULUM** The following major subjects will be covered in the course: (1) outline of forestry and wood industry in Japan (2) forestry and forest products administration in Japan (3) forestry technique (a) nursery technique (b) silvicultural technique (c) forest protection (prevention of fire, disease, insect and animal) (d) forest road and erosion control (e) forestry machinery (f) forest survey (g) forestry education and extension (4) silvicultural technique in the tropics (5) forestry in participating countries
- QUALIFICATION OF APPLICANT** (1) presently engaged in planning work in the governmental forestry organizations (not be researcher of public organizations or instructor or professor of colleges/universities) (2) under 40 years of age (3) forestry university/college graduate or equivalent with occupational experience of more than five years in the field of forestry administration
- TRAINING INSTITUTIONS** (1) Tokyo International Center (TIC), JICA (2) Japan Overseas Forestry Consultants Association (JOFCOA) (3) Forestry Agency
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (50 hours).

**FOREST SOIL**

Aug. 4, '94 - Dec. 4, '94, 6 participants

森林土壌

J-94-00335

- PURPOSE** The course is designed to introduce the knowledge on forest soils and the method of the forest soil survey in Japan to those who are presently engaged in practice and research work in forestry in governmental organizations.
- MAIN FEATURES OF CURRICULUM** In this course, the following are the major subjects: (1) forest soil science (a) general description of forest soils (b) formulation, classification and distribution of forest soils (c) vegetation, productivity and water conservation with forest soils (d) soils and fertilizers for forestry nursery (e) forest soils in Okinawa (2) investigation into forest soils (a) methods of forest soil investigations (sampling and analysis) (b) soil mapping and utilization on forest maps (c) field research and investigations
- QUALIFICATION OF APPLICANT** (1) university graduate (2) having more than five years of experience in the field of forest soil research (3) presently serving at forestry research organizations or universities (4) under 40 years of age
- TRAINING INSTITUTIONS** (1) Okinawa International Centre (OIC), JICA (2) Japan Forest Technical Association (3) College of Agriculture, University of the Ryukyus
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (50 hours).

## FOREST MANAGEMENT AND PLANNING

Aug. 15, '94 - Nov. 13, '94, 15 participants

森林管理計画

J-94-00445

- 1. PURPOSE** The purpose of this course is to provide participants with an opportunity of; (1) studying the technology, knowledge on the various land survey which form the basis of the Japanese system of forest management and planning (2) practicing forest management planning so that they may contribute to the conservation and development of forest resources in their home countries.
- 2. MAIN FEATURES OF CURRICULUM** This course is designed to balance lecture and practice, and the main themes are: (1) forest management in Japan (2) methods of forest management planning (3) rural development and forest policy (4) final forum
- 3. QUALIFICATION OF APPLICANT** (1) technical staff in charge of forest management in the governmental organizations and have more than five years of experience (2) university graduate or equivalent (3) not more than 45 years of age
- 4. TRAINING INSTITUTIONS** (1) Hachioji International Training Centre (HITC), JICA (2) Forestry Training Institute, Forestry Agency
- 5. REMARKS** A compulsory intensive Japanese language will be conducted prior to the technical training for two weeks (50 hours).

## FOREST RESEARCH

Aug. 15, '94 - Nov. 27, '94, 5 participants

森林研究

J-94-00501

- 1. PURPOSE** The course is designated to contribute to upgrading knowledge and skill of the participants in the field of bio-resources technology, wood chemistry and wood technology, so as to train researchers capable of playing important roles in these field.
- 2. MAIN FEATURES OF CURRICULUM** This course is composed of the three sub-courses; "Forest", "Forestry" and "Forest Products". Each sub-course is conducted every three years. This year (Japanese fiscal 1994), the sub-course on "Forest Products" will be given. This course consists of common subjects for all participants (about one week) and individual research work in the laboratory (about 2 months). Each participant is to take one of the following subjects for their individual research. (1) microbial treatment of wood (2) chemical conversion of wood component (3) chemical processing of wood (4) wood processing (5) wood characteristics (6) timber engineering
- 3. QUALIFICATION OF APPLICANT** (1) university / college graduate or equivalent with occupational experience of more than five years in the field of forest research (2) research scientist of forest research organizations or universities (3) under 40 years of age Note: This training course is not designed for administrators, but for research scientists.
- 4. TRAINING INSTITUTIONS** (1) Tsukuba International Centre (TBIC), JICA (2) Forestry and Forest Products Research Institute, Ministry of Agriculture, Forestry and Fisheries
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (50 hours).

## WOOD BASED MATERIALS APPLICATION TECHNOLOGY

Aug. 15, '94 - Dec. 8, '94, 7 participants

木質材料高度利用技術

J-94-00386

- 1. PURPOSE** The course designed to contribute to upgrading knowledge of the participants in the field of wood industry through lectures and observations, so as to enable them to contribute to the development of wood technology and effective utilization of wood resources in their own countries.
- 2. MAIN FEATURES OF CURRICULUM** In the course, the emphasis is put on lectures and practical training. The main themes are: (1) wood resources and their utilization (2) production technology of improved woods (3) wood based materials and surface finishing technology (4) wood based materials and adhesive agents (5) research and development for wood based materials processing
- 3. QUALIFICATION OF APPLICANT** (1) university graduate or equivalent (2) occupational experience of more than five years in the field of wood industry, belonging to a governmental organization (3) under 40 years of age
- 4. TRAINING INSTITUTIONS** (1) Nagoya International Training Centre (NITC), JICA (2) universities and public institutes
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (75 hours).

## SEMINAR ON FISHERIES POLICY AND ADMINISTRATION

June 28, '94 - Aug. 14, '94, 7 participants

水産政策行政セミナー

J-94-00518

- 1. PURPOSE** The purpose of this course is to upgrade planning capacities of participants who are in the position of fisheries policy making in their respective governments.
- 2. MAIN FEATURES OF CURRICULUM** The course is composed of general and specific subjects. The program of the general subject is designed to cover critical aspects of fisheries development planning not only from the perspectives of developed countries but also from those of developing countries so that participants will be able to expose themselves to a wide spectrum of experience and thought. The special topic will be set out independently for each year. In 1994, for example, the special theme is "Marine environment and fisheries". Course contents will be divided nearly evenly between general subjects and the subjects relevant to the special theme. The key subjects of general topic are: (1) legal system and fisheries policy in Japan (2) fisheries development strategies and project formulation (3) fish resource management - biology and economics (4) infrastructure development for fisheries (5) financial development for fisheries (6) poverty, women and participation in fishing communities (7) coastal zone management and fisheries policy
- 3. QUALIFICATION OF APPLICANT** (1) a director or an equivalent level official of the government who is presently in charge of policy making in the fishery sector, with more than five years of occupational experience in the field of fisheries (2) university graduate or equivalent (3) between 30 and 50 years of age
- 4. TRAINING INSTITUTIONS** Kanagawa International Fisheries Training Centre (KIFTC), JICA

**FISHERIES MANAGEMENT AND COOPERATIVES  
(INTENSIVE)**

Aug. 16, '94 - Dec. 11, '94, 8 participants

漁業協同組合(インテンシブ)

J-94-00520

- 1. PURPOSE** The purpose of this course is to upgrade administrative skills of personnel who are currently engaged in the administrative or extension work through cooperative formation in the fisheries field.
- 2. MAIN FEATURES OF CURRICULUM** The curriculum puts emphasis on lectures of fisheries management through the cooperative development and based on which participants will study the future development way of fisheries cooperative in their countries through discussions and study tours. At the end of the course participants are requested to complete a brief paper titled "Personal proposal for fisheries (cooperative, community, marketing, etc.) development in my country". The key subjects are: (1) cooperative principles and fisheries cooperative (2) fishery administration and fishery cooperative (3) management of fishery cooperative (4) marketing activities of fisheries (5) credit activities to fishermen (6) fishery resource management
- 3. QUALIFICATION OF APPLICANT** (1) staff of fishery cooperatives, official of the government in related fields, or bank staff who offers credit to fisheries cooperatives, with more than three years of occupational experience (2) university graduate or equivalent (3) under 40 years of age
- 4. TRAINING INSTITUTIONS** Kanagawa International Fisheries Training Centre (KIFTC), JICA
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (50 hours).

**COASTAL FISHING TECHNOLOGY**

Apr. 12, '94 - Dec. 18, '94, 8 participants

沿岸漁業技術

J-94-00432

- 1. PURPOSE** The course is designated for persons who are engaged in guidance and extension service in the field of fishery to impart basically and systematically the practical technique and knowledge of the fishing gear and methods in coastal fishery.
- 2. MAIN FEATURES OF CURRICULUM** The purpose of this course is to provide the participants with knowledge and techniques of the matters as follows: (1) general knowledge concerning coastal fisheries in Japan (2) theory of fishing gear and methods (3) construction and improvement of fishing gear and methods (4) proper operational skill of coastal fishing gear (5) basic knowledge on the proper utilization of fishing grounds, management of fishery resources and proper use of fishing machines and other auxiliary equipment
- 3. QUALIFICATION OF APPLICANT** (1) senior high school graduate or equivalent (2) more than three years of occupational experience in the field of coastal fishery (3) under 35 years of age
- 4. TRAINING INSTITUTIONS** Kanagawa International Fisheries Training Center (KIFTC), JICA
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (50 hours).

**FISHING SCIENCE AND TECHNOLOGY**

Jan. 10, '95 - Mar. 26, '95, 6 participants

漁具漁法学

J-94-00215

- 1. PURPOSE** The purpose of the course is to transfer knowledge and technique of fishing gear and methods (e. g. design, fabrication, and operation) to those who are engaged in education and research work in this field.
- 2. MAIN FEATURES OF CURRICULUM** Lecture is the principal part of the curriculum and it covers broad aspects of fishing science and technology. The time allocation for each subject is usually one day (5 hours), and a in-depth study on a specific subject for a research objective will not be dealt with in the course. Several laboratory experiments (i. e. experiment on water circulation tank), practices (i. e. gear making and on-board training), and study tour are also included in the curriculum. The key subjects are: (1) trawl fishing, gill net fishing, set net fishing, purse seine fishing, and payau fishing (2) fishing gear materials and its classification (3) dynamics of fishing gear (4) fish behavior to fishing gear (5) catch selectivity
- 3. QUALIFICATION OF APPLICANT** (1) have more than three years of occupational experience on improvement of fishing gear and methods in the fields of research and education (2) university graduate or equivalent (3) under 40 years of age
- 4. TRAINING INSTITUTIONS** Kanagawa International Fisheries Training Centre (KIFTC), JICA
- 5. REMARKS** A compulsory intensive Japanese language course (night class: 19:00-21:00) will be conducted at the initial stage of training for two weeks (30 hours).

**GENERAL AQUACULTURE**

Jan. 10, '95 - June 25, '94, 9 participants

養殖一般

J-94-00236

- 1. PURPOSE** The course is designed to upgrade basic knowledge and technique of aquaculture for those who are involved in extension or research work. The training program is designed to cover various kinds of aquatic organisms, such as fin fish, molluscs, crustaceans and algae in not only seawater, but also brackishwater and freshwater. However, species dealt with in the practice are restricted according to geographic and seasonal conditions of Japan.
- 2. MAIN FEATURES OF CURRICULUM** In this course, the emphasis is placed on introduction of Japanese technical experience and basic scientific theories of aquaculture through lectures, laboratory experiment, and study tours. The main themes are: Lecture: seed production, ichthyology, nutrition, genetics, physiology, histology, pathology, water quality management, biostatistics. Practice: artificial insemination and seed production including larval rearing, food organisms culture (marine chlorella, diatom, rotifer and artemia), pituitary extraction and hormone injection, fish anatomy and histology, formula food manufacture, and its digestibility analysis water quality analysis. Besides lecture time, one month is approximately allocated for an individual experiment in which following aquatic animals could be dealt with upon the request of participant. As a result of the experiment, each participant is requested to submit and present a report to JICA. *Paralichthys olivaceus*, *Pagrus major*, *Oreochromis niloticus*, *Cyprinus carpio*, *Penaeus japonicus*, *Macrobrachium rosenbergii*
- 3. QUALIFICATION OF APPLICANT** (1) presently engaged in aquacultural extension or research work with more than two years of experience in this field (2) university graduate or equivalent (3) under 35 years of age
- 4. TRAINING INSTITUTIONS** Kanagawa International Fisheries Training Centre (KIFTC), JICA
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (50 hours).

## PRAWN PROPAGATION TECHNIQUE

Feb. 21, '95 - July 31, '95, 6 participants

エビ増養殖技術

J-94-00410

- PURPOSE** The purpose of the course is to train the participants to become technical supervisors for prawn farm workers in prawn propagation and to contribute to the development and expansion of prawn propagation in their respective countries. For this purpose, the participants are to learn prawn propagation technique in Yamaguchi Prefecture, which faces the Seto Inland Sea and has been enjoying the leading position in penaeus japonicus (P. J.) culture technique in Japan. Related general aquaculture techniques will be also taught.
- MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on report presentation, lectures which introduce Japanese experience and basic theories of prawn (P. J.) culture, and workshop practice of prawn (P. J.). It mainly covers: (1) biology of P. J. (2) seedling production of P. J. (3) technique of P. J. (4) sickness control and feeds of P. J. (5) freshness preservation and marketing system of prawns (6) seedling production of fishes and shellfishes (7) aqua propagation in general
- QUALIFICATION OF APPLICANT** (1) presently engaged either in practical production or research and have more than one year of occupational experience in this field (2) above junior college graduate or equivalent (3) not more than 35 years of age.
- TRAINING INSTITUTIONS** (1) Chugoku Branch Office, JICA (2) Fisheries Bureau of Yamaguchi Prefecture (3) Yamaguchi Prefectural Naikai Sea Farming Center
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for five weeks (125 hours).

## MARINE RANCH (MARINE FARM) SYSTEM

July 11, '94 - Dec. 5, '94, 7 participants

海洋牧場システム

J-94-00336

- PURPOSE** The purpose of the course is to enable the participants who belong to fisheries research institutes (university) and fisheries offices to understand the basic theory and techniques for the management of marine ranch (marine farm). After this course, it is expected of them to plan a suitable system for the fishery resources in their respective countries.
- MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on understanding the idea of the marine ranch (marine farm) system, not on learning a certain specialized field or a technique in fisheries. It mainly covers: (1) theory of marine ranch (marine farm) management (2) method of fisheries hydrography (3) method of preparing seaweed beds (4) method of seed production of shrimp, shellfish and marine fish (5) method of artificial reefs (6) making his/her own marine ranch (marine farm) programme for his/her country
- QUALIFICATION OF APPLICANT** (1) university graduate or equivalent and be experienced in business over five years (2) presently engaged in either research or educational activity in fisheries (3) not more than 40 years old
- TRAINING INSTITUTIONS** (1) Shikoku Branch Office, JICA (2) Usa Marine Biological Institute, Kochi University
- REMARKS** A compulsory intensive Japanese language course will be conducted for two weeks in the early days of the course.

## FISH PHYSIOLOGY AND PREVENTION OF EPIZOOTICS

Mar. 6, '95 - June. 18, '95, 5 participants

魚類生理・防疫

J-94-00351

- PURPOSE** The purpose of this course is to enable the participants who belong to an institution of education and research to understand the basic theory and technique for fish physiology and the prevention of epizootics which are important themes in aquaculture, and thereby contributing to the improvement of the aquaculture industries in their respective countries.
- MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on basic knowledge of fish physiology, fish nutrition and bacteriology, as well as mastering practical techniques to solve specific problems in epizootics which fish cultivation industry in developing countries are facing. The subjects covered in the course are: (1) principles of aquaculture (2) fish nutrition (3) water quality management (4) fish physiology (5) bacteriology (6) fish pathology (7) prevention of epizootics in fish
- QUALIFICATION OF APPLICANT** (1) presently engaged either in research or educational activity and have more than three years of occupational experience in this field (2) university graduate or equivalent (3) be not more than 40 years of age
- TRAINING INSTITUTIONS** (1) Kyushu International Centre (KIC), JICA (2) Shimomoseki University of Fisheries
- REMARKS** (1) A compulsory 25 hour Japanese language course will be conducted prior to the technical training.

## HULL AND ENGINE MAINTENANCE OF SMALL FISHING BOAT

Jan. 10, '95 - June 25, '95, 7 participants

小型漁船の船体・機関保守

J-94-00277

- PURPOSE** The purpose of the course is to provide the participants with knowledge of hull and engine maintenance, and hull and engine repair of small fishing boat (less than 50 G. T. approximately) with emphasis on practical aspect, so that the participants who have completed the training course can diffuse the knowledge they learned in Japan to the fishermen of their countries.
- MAIN FEATURES OF CURRICULUM** This course will provide the knowledge and techniques of maintenance and repair of small fishing boat, engine and related equipment which are important means of fishing, with emphasis on practical aspect. Major subjects are as follows: (1) diesel engine (2) outboard motor (3) refrigerating equipment (4) electric equipment for marine use (5) maintenance of FRP fishing boat
- QUALIFICATION OF APPLICANT** (1) senior high school graduate or equivalent (2) fishery boat of engine experience of more than three years (3) under 40 years of age
- TRAINING INSTITUTIONS** Kanagawa International Fisheries Training Centre (KIIFTC), JICA
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (50 hours).

**HANDLING AND PROCESSING OF FISH AND MARINE PRODUCTS**

Apr. 12, '94 - Aug. 14, '94, 6 participants

漁獲物処理

J-94-00515

- PURPOSE** The purpose of the course is to provide practical knowledge required for handling and processing of fish and marine products for leading technical officials and researchers who are presently engaged in the field of handling and processing. Participants are given lectures and laboratory practices, as well as demonstrations arranged by national universities, governmental research institutes and private industries.
- MAIN FEATURES OF CURRICULUM** This course will be conducted in the form of lectures, practices, and study trips. In field training, the participants will have much practice at typical marine food processing plants in different regions. Throughout the course they will obtain a lot of information and technology on the following subjects for the effective utilization of marine resources and its improvement, which can be applied to their countries. (1) lectures: marine product industry in Japan; the outline of fishery industry in Japan; fish and shellfish condition after death; freshness maintenance agent and additives; food preservation and preservatives; catching method of marine products for processing; aquatic processing and bacterial infection and intoxication; chemistry and utilization of seaweed; fish skin and glue; taste-active components; drying products; salting products and smoking products; processing of fish and shellfish on boat; overland transportation of fishery products. (2) practice: micro-organism test of fish and shellfish, food analyzing method, material freshness and product quality, freshness judging method of marine products.
- QUALIFICATION OF APPLICANT** (1) Engineer presently engaged in either production or research on handling and processing of fish and marine products, and having more than three years of occupational experience in this field. (2) university graduate or equivalent (3) under 40 years of age.
- TRAINING INSTITUTIONS** Kanagawa International Fisheries Training Centre (KIFIC), (JICA)
- REMARKS** (1) A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (50 hours).

**COAL MINE SAFETY**

Sep. 12, '94 - Dec. 11, '94, 9 participants

石炭鉱山保安

J-94-00269

- PURPOSE** The course is designated to introduce practical technology and knowledge in the field of coal mine safety to participants, who are safety engineers at coal mines, mine safety officers or official field inspectors so that they can play important roles in their fields.
- MAIN FEATURES OF CURRICULUM** This course consists of common subjects for all participants (about two and a half months) and individual study in the laboratory (about one week). (1) the following are common subjects (lecture): (a) mining policy (b) mine safety policy (c) international cooperation of mine safety (d) inspection of underground appliances (e) prevention of underground labor accidents (f) accident analysis (g) underground work environment (h) ventilation (i) explosives and blasting (j) rock mechanics (k) mine support (l) gas and coal dust explosions (m) static electricity (n) safety appliances (o) safety measurement (p) mine fire (2) each of participants is to take one of the following subjects for their individual study: (a) rock mechanics, AE measurement (b) mine ventilation (c) safety appliances (d) explosion proof instruments
- QUALIFICATION OF APPLICANT** (1) presently engaged in the field of coal mine safety (2) university graduate or equivalent with basic knowledge of mine safety with occupational experience of more than three years (3) under 35 years of age
- TRAINING INSTITUTIONS** (1) Tsukuba International Centre (TBIC), JICA (2) National Institute for Resources and Environment, Ministry of International Trade and Industry (3) Japan Technical Co-operation Center for Coal Resources Development

**QUALITY ASSURANCE OF MARINE FOOD**

Aug. 16, '94 - Dec. 11, '94, 6 participants

水産食品品質保証

J-94-00517

- PURPOSE** The purpose of the course is to provide practical knowledge and technology required for quality assurance of processed fish and marine products for the participants from the developing countries, so that they will be able to contribute to their home countries in the field of marine food processing after return from Japan.
- MAIN FEATURES OF CURRICULUM** This course consists of lectures, practices, and study trips. In field training, the participants have much practice at typical marine food processing plants in different regions. Throughout the course they will obtain a lot of information and technology on the following subjects for the effective utilization of marine resources and its improvement, which can be applied to their countries. (1) lectures: the outline of fishery industry in Japan; marine food processing in Japan; spoilage of marine products; fishing technology in Japan; objective and subjective methods for measuring freshness; fish paste processing technology; marine food processing; processing retort-pouched food; fermented marine foods; quality and integrity analysis of fishery products; freeze-drying method of marine food; drying products; salting products and smoking products; canned food inspection; frozen food inspection; marine toxins; toxic substances of fish and shellfish; bacterial food poisoning; chemical interaction of marine food composition; distribution of fishery products; the laws and ordinances of marine food quality. (2) practice: objective and subjective methods for measuring freshness of fish. fish paste processing technology. instrumental analysis of food. bacteria inspection methods.
- QUALIFICATION OF APPLICANT** (1) Engineer presently engaged in either production or research on handling and processing of fish and marine products, and having more than three years of occupational experience in this field. (2) University graduate or equivalent (3) Under 40 years of age.
- TRAINING INSTITUTIONS** Kanagawa International Fisheries Training Centre (KIFIC), (JICA)
- REMARKS** (1) A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (50 hours).

**MINERAL PROCESSING AND METALLURGY**

Sep. 19, '94 - Aug. 8, '95, 6 participants

選鉱製錬

J-94-00294

- PURPOSE** The purpose of the course is to introduce the participants to the essential and latest knowledge and various experimental technique for instrumental analysis in the field of mineral processing and extractive metallurgy envisaging that participants may become competent enough to assume responsibilities and thereby contributing to the progress of the industries and research laboratories in their own countries.
- MAIN FEATURES OF CURRICULUM** The course consists of common subjects for all participants and individual research work in the laboratory. Each participant is to choose one of the following laboratories for their individual research. (1) materials refining div. (a) mechanical refining lab. (b) physical refining lab. (c) chemical refining lab. (d) photo-induced refining lab. (e) anticontamination lab. (2) morphological control div. (a) gas-phase processing lab. (b) liquid-phase processing lab. (c) melt-phase processing lab. (d) solid-phase processing lab. (e) multiphase processing lab. (3) materials analysis div. (a) atomic scale composition analysis lab. (b) atomic scale morphology lab. (c) system engineering lab. (4) new metallurgical resources
- QUALIFICATION OF APPLICANT** (1) engineer or researcher (2) university graduate or equivalent in mining and metallurgy or similar subjects, with more than three years of occupational experience in a related field (3) presently engaged in the research works at universities, vocational institutes, research and development divisions in industries (4) over 25 and under 35 years of age
- TRAINING INSTITUTIONS** (1) Tohoku Branch, JICA (2) Institute for Advanced Materials Processing (SOZAIKEN), Tohoku University
- REMARKS** A compulsory intensive Japanese language course will be conducted for 200 hours prior to the technical training and for about 100 hours more along with it.

**MINING AND METALLURGY**

July 25, '94 - Nov. 21, '94, 20 participants

資源開発

J-94-00441

- PURPOSE** The purpose of the course is to enable the participants: (1) to deepen understanding of the present situation in the Japanese mining industry and the relationship between the mining industry and other industries through lectures and field trips, and (2) to enhance the knowledge and technology necessary for their mining business after going back to their respective countries. Coal mining industry will not be covered in this course.
- MAIN FEATURES OF CURRICULUM** This course consists of lectures and observation tour. Participants will be divided into three groups to cover one of the following subjects: (1) exploration (2) mining (3) mineral processing and metallurgy
- QUALIFICATION OF APPLICANT** (1) university / college graduate or equivalent who has basic knowledge of mineral mining (2) mining geologist, mining engineer, milling engineer, metallurgist and other engineer concerned with mining industry who are presently employed at government institutions or private companies in the field of mining development (3) have more than five years of practical experience (4) under 40 years of age
- TRAINING INSTITUTIONS** (1) Tohoku Branch, JICA (2) International Institute for Mining Technology (Minetec)
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for 3 weeks.

**RESEARCH AND DEVELOPMENT ON MATERIALS AND RESOURCES**

Aug. 22, '94 - Apr. 19, '95, 5 participants

材料および資源に関する技術研究

J-94-00412

- PURPOSE** The purpose of the course is to assist the participants in understanding the essential aspects of research and in cultivating a pioneer spirit of research through participation in the research themes with Government Industrial Research Institute (GIRIT) and discussion with GIRIT's researchers. GIRIT's researchers will help participants become technical experts and research planners who can carry out similar work by themselves so as to promote this field in their own countries. The purpose of this course is not to acquaint the participants with known technologies that can be immediately applied in their countries, but rather to assist the participants in mastering methods of research and planning with the objective of gaining greater technical knowledge.
- MAIN FEATURES OF CURRICULUM** After the technical orientation, participants will pursue individual research work under a designated research subject for about eight months. The following six groups in GIRIT will offer programs for the technical training: (1) separation and chemical analysis group (2) electrochemical corrosion-testing group (3) mechanical property group (4) thermal science-design and analysis group (5) computer aided instrumentation group (6) ultrasonic measurement of materials group
- QUALIFICATION OF APPLICANT** (1) university graduate in the field of chemical, mining, mechanical or other related technology with occupational experience of more than three years. Master's or doctoral degree is preferable. (2) between 25 and 35 years of age
- TRAINING INSTITUTIONS** (1) Tohoku Branch, JICA (2) Government Industrial Research Institute, Tohoku, (GIRIT), Agency of Industrial Science and Technology, Ministry of International Trade and Industry.

**SENIOR CLASS SEMINAR ON SMALL INDUSTRY DEVELOPMENT II**

June 30, '94 - July 30, '94, 12 participants

中小企業開発セミナーII

J-94-00074

- PURPOSE** The purpose of the seminar is to provide senior class officials in governmental or semi-governmental agencies with some hints and ideas for formulating and implementing better development policies for small industry through review and comparison of policies taken in Japan and those of participating countries. Participation in the seminar will be of great value to participants in development and promotion of small industry in their countries.
- MAIN FEATURES OF CURRICULUM** This seminar will be conducted in the form of lecture, observation and discussion and the curriculum consists of four main parts as follows; (1) orientation (lecture and observation) (a) general environment for small industries (2) Japanese case study (lecture and observation) (a) financing (b) tax and credit (c) management (d) technology (e) human resources (3) international comparative study (presentation and discussion) (a) ancillarization (b) rural industrialization (c) export-oriented industrialization (d) institutional set-ups (industrial estate, cooperative) (4) applicability study (presentation and discussion) (a) Subjects are decided according to the needs of the participants
- QUALIFICATION OF APPLICANT** (1) university graduate or equivalent (2) senior administrative official in charge of implementation and/or planning of small industry development (3) occupation experience of more than five years (4) more than 30 years of age
- TRAINING INSTITUTIONS** (1) Nagoya International Training Centre (NITC), JICA (2) Aichi Industrial Research Association (3) Special Steering Committee for S. I. D. Seminar

**IMPLEMENTATION OF TQC AND STANDARDIZATION ACTIVITIES II**

June 23, '94 - Sep. 4, '94, 13 participants

TQC・標準化活動実践II

J-94-00105

- PURPOSE** The purpose of this course is for managers and engineers in developing countries who are involved in promoting quality control and performing the related actual work in standardization organizations, quality control organizations or enterprises to acquire knowledge about the necessity for TQC and Standardization, as well as the related philosophy and techniques, as the foundations for the development of manufacturing industries. Upon return to their respective countries, it is expected that the participants will effectively apply this knowledge in actual operations, as well as provide an active basis for TQC and standardization to flourish, as supporters and advisors in these fields.
- MAIN FEATURES OF CURRICULUM** The purpose of this course is for the participants to acquire this knowledge through lectures on the concepts of overall theory, quality theory, control theory regarding the basics of and need for TQC and Standardization, and the techniques for solving quality problems and the methods of managing a TQC organization, and through group seminars and visits to factories where these concepts are in actual use.
- QUALIFICATION OF APPLICANT** (1) working for promotion of standardization and/or quality control with experience of more than three years in government office, public corporation, public or private institute, or private company. (2) under 40 years of age (3) university/college graduate or equivalent
- TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Standards Department, Agency of Industrial Science and Technology, Ministry of International Trade and Industry (3) Japanese Standards Association (JSA)



**SEMINAR ON INDUSTRIAL STANDARDIZATION AND QUALITY CONTROL**

Oct. 25, '94 - Nov. 19, '95, 7 participants

工業標準化・品質管理シニアセミナー J-94-00316

- PURPOSE** This Seminar is designed to give informative knowledge and ideas on actual implementation of standardization and quality control activities to participants; (1) by showing the experiences and the current situation of Japanese activities, and (2) by having discussion with Japanese leaders and policy makers of such activities.
- MAIN FEATURES OF CURRICULUM** The main themes of this course are: (1) role of standardization in industrial development (2) how to promote nation-wide standardization (3) the current situation and the future direction of international standardization activities (4) what QC is and how to promote it in companies
- QUALIFICATION OF APPLICANT** (1) working for promotion of industrial standardization and/or quality control either in government office, public corporation, public or private institute, or private company (2) senior-class staff (director of department or its equivalent) presently engaged in policy-making of industrial standardization and/or quality control (3) university graduate or equivalent (4) between 35 and 50 years of age
- TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Standards Department, Agency of Industrial Science and Technology, Ministry of International Trade and Industry (3) Japanese Standards Association

**INDUSTRIAL PROPERTY SYSTEM**

Sep. 8, '94 - Nov. 9, '94, 9 participants

工業所有権制度 J-94-00242

- PURPOSE** The purpose of this course is to offer an opportunity to the participants to obtain basic practical knowledge and techniques needed for smooth operation of the industrial property system, especially concerning the role of this system in technological development and transfer of technology. Participants will also be provided with a basic knowledge of the Japanese legal system of the industrial property rights, and organizations responsible for implementation of the industrial property system and patent documentation. Participants will then be able to contribute to the further development of the industrial property system in their respective countries.
- MAIN FEATURES OF CURRICULUM** This course consists of common subjects for all participants and group work. After common lectures, participants will be divided into two groups in accordance with their specialities as follows: **Group A**) For general administration officers in industrial property offices or related organizations **Group B**) For patent, design or trademark examiners or prospective examiners
- QUALIFICATION OF APPLICANT** (1) official who has experience as: a general administration officer in the industrial property offices or related organizations (Group A), or an examiner for patent, design or trademark applications or its equivalent (Group B) (2) under 40 years of age (3) university graduate or equivalent
- TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Japanese Patent Office (JPO), Ministry of International Trade and Industry (3) Japan Institute of Invention and Innovation (JIII)

**SEMINAR ON INDUSTRIAL PROPERTY**

June 7, '94 - July 2, '94, 6 participants

工業所有権セミナー J-94-00261

- PURPOSE** This seminar is designed to offer the participants with an opportunity to reconfirm the importance of industrial property (IP) System for the economic and technological development through studying the Japanese experiences, and discuss some ideas for further development of management of IP system in their home countries.
- MAIN FEATURES OF CURRICULUM** The main themes of this seminar are; (1) Japanese IP system and its management and administration (2) role of IP system for economic and technology development in Japan (3) further development of management of IP system in participating countries
- QUALIFICATION OF APPLICANT** (1) senior official (Director of the Department or the equivalent) of a competent government ministry or agency (industrial property office or its supervisory ministry) whose duties concern industrial property policy-making (2) university graduate or equivalent (3) between 30 and 50 years of age
- TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Japanese Patent Office (JPO), Ministry of International Trade and Industry (3) Japan Institute of Invention and Innovation (JIII)

**LEGAL METROLOGY**

July 18, '94 - Dec. 18, '94, 6 participants

法定計量 J-94-00513

- PURPOSE** This course is organized for government officers who are designated as senior verification officers and are responsible in verification and inspection of measuring equipments in the field of legal metrology. The purpose is to provide practical training of verification and inspection. It will serve as a good opportunity to upgrade the level of the legal metrology system and the operational method available in Japan.
- MAIN FEATURES OF CURRICULUM** This course consists of common subjects for all participants as follows. (I) technical training (a) legal metrology in general (i) measuring instrument industry in Japan (ii) outline of measurement administration in regional districts (iii) regional administration and inspection station (iv) international measurement term and system of units (v) measurement administration system (vi) measurement system of Japan and abroad (b) technical subjects (i) mass standards, time standard temperature standard fluid & volume standard (ii) statistic theory (quality control), automatic control theory (iii) regulation of legal metrology, electronic type measuring instruments (iv) metric convention (v) present situation of exporting goods (vi) international society and roles of measurement, thermophysical measurement, etc. (vii) length measuring meter and inspection, glass thermometer and inspection, taxi meter driving inspection, etc. (viii) inspection of verification standards (ix) verification of scale, etc. (x) periodic inspection, on-the-spot inspection (c) specialized institutes (3 weeks) (i) Japan electric meters inspection corporation (JEMIC) (ii) Japan Quality Assurance Organization (JQA) (2) observation tour (1 week) (3) factory observation training (1 week)
- QUALIFICATION OF APPLICANT** (1) university graduates or the equivalent. (2) presently engaged in legal metrology at governmental or semi-governmental services with an occupational experience of more than three (3) years in this field. Researchers are excluded. (3) Over 25 and under 40 years of age.
- TRAINING INSTITUTIONS** (1) Tsukuba International Centre (TBIC), JICA (2) National Research Laboratory of Metrology (NRLM), Agency of Industry and Technology, Ministry of International Trade and Industry (3) Japanese Conference on Administrative Guidance of Legal Metrology (JCAGLM), Secretariat: Tokyo metropolitan Inspection Institute of Weights and Measures (TMIIWM)
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for three weeks (75 hours).

**CERTIFICATION SYSTEMS**

Jan. 10, '95 - Mar. 10, '95, 10 participants

認証検査制度

J-94-00235

- PURPOSE** The purpose of this training course is to introduce the certification system which has contributed a great deal to quality assurance in Japan to all participants working in certification bodies, testing laboratories or inspection agencies in developing countries to encourage their interest in quality.
- MAIN FEATURES OF CURRICULUM** The main themes of this course are; (1) philosophy of the certification system (2) Japanese certification systems, particularly the JIS (Japanese Industrial Standards) Marking System (3) voluntary and compulsory certification systems (4) international movements related to certification systems (5) assessment procedures for assuring conformity with concerned standards (6) practical inspection procedures (7) promotion of quality products in each participating country
- QUALIFICATION OF APPLICANT** (1) presently engaged in the work relating to certification, inspection and/or testing (2) under 40 years of age (3) university/college graduate or equivalent
- TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Japanese Standards Association (JSA) (3) Standards Department, Agency of Industrial Science and Technology, Ministry of International Trade and Industry

**CERAMIC KILN AND FIRING TECHNOLOGY**

Sep. 12, '94 - Mar. 3, '95, 8 participants

セラミック窯炉及び焼成技術

J-94-00505

- PURPOSE** The course is aimed at providing researchers presently engaged in the development work at research institute on educational institutions, or engineers in the private, medium and small enterprises with knowledge and technology about kiln design, kiln construction, and firing etc. concerning ceramic products which conform to the real conditions of participant's countries. It is expected that, upon completion of the course, the participant will be able to contribute to the improvement of quality of local ceramic products as well as firing technology in manufacturing local ceramic products.
- MAIN FEATURES OF CURRICULUM** In the course, the emphasis is put on lectures, practical training and observations. The main theme are: (1) introduction of technical training (2) kiln design and kiln construction (3) technology on firing in the kiln (4) related technology
- QUALIFICATION OF APPLICANT** (1) university graduate or equivalent with the practical experience of more than three years in production at educational or research institutions related to ceramics (2) presently engaged in the field of ceramics (3) between 25 and 39 years of age
- TRAINING INSTITUTIONS** (1) Nagoya International Training Centre (NITC), JICA (2) Technical Research Laboratory, Mino Yagyo Co., Ltd.
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for three weeks (105 hours).

**CERAMIC BUILDING MATERIALS TECHNOLOGY**

Aug. 29, '94 - Mar. 3, '95, 8 participants

セラミック建材技術

J-94-00196

- PURPOSE** It is expected that, upon completion of the course, the participants will acquire a great deal of technical knowledge and be able to contribute to the improvement of quality and productivity in the manufacture of the ceramic building materials.
- MAIN FEATURES OF CURRICULUM** The large part of this training course is allocated to the production process and technique of ceramic wall tile from raw materials to finished products. In addition, as for the other ceramic building materials (common brick, roof tile, sanitary ware, and so on), their production technique and problems are introduced during lectures and visits. The main themes are: (1) quality control (2) analysis and evaluation of raw materials (3) body preparation (4) forming (5) glaze preparation (6) firing (7) other products
- QUALIFICATION OF APPLICANT** (1) university graduate or equivalent (2) presently engaged in this field at industries, research institutes or vocational institutes (3) occupational experience of more than three years (4) between 26 and 40 years of age
- TRAINING INSTITUTIONS** (1) Nagoya International Training Centre (NITC), JICA (2) INAX Corporation
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for four weeks (100 hours).

**HIGH TECHNOLOGY MATERIALS APPLICATION  
(Fine ceramics, composites, metals)**

May 9, '94 - Aug. 1, '94, 7 participants

ファインセラミックス応用技術

J-94-00387

- PURPOSE** The course is aimed at providing engineers who are at present engaged in the field of mechanical and metal industries with applied technology, knowledge and information about functional materials as mentioned in sub-title above, whose demand has been incessantly growing in recent years, so as to expedite the development in their respective countries.
- MAIN FEATURES OF CURRICULUM** This course mainly covers: (1) inorganic materials (ceramics) mechanical properties, chemical durability, thermal properties, application at higher temperatures, electronic radiation, magnetic properties, application as sensor, optical properties, biological application, establishment and utilization of data base (2) other materials metallic materials composite materials
- QUALIFICATION OF APPLICANT** (1) university graduate or equivalent (2) occupational experience of more than three years (3) between 26 and 40 years of age
- TRAINING INSTITUTIONS** (1) Nagoya International Training Centre (NITC), JICA (2) Japan Fine Ceramics Center (JFCC) (3) Government Industrial Research Institute, Nagoya (GIRIN) (4) public institutes and private industries
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for one week (30 hours).

**PETROCHEMICAL INDUSTRY**

Jan. 16, '95 - Mar. 5, '95, 11 participants

石油化学工業

J-94-00244

- PURPOSE** The purpose of this course is to provide the participants, who are presently engaged in petrochemical industry, with opportunities to acquire comprehensive knowledge of Japan's present situation in this field for wholesome promotion of petrochemical industrialization in their countries.
- MAIN FEATURES OF CURRICULUM** The course emphasized the acquisition of the knowledge of (1) the situation of world and Japanese petrochemical industry, (2) modern petrochemical technology, and (3) management of petrochemical industry necessary for the wholesome promotion of petrochemical industrialization, through the lectures, discussions, and observations.
- QUALIFICATION OF APPLICANT** (1) senior position with high responsibility in the field of petrochemical industry or its development programme (2) university graduate or equivalent (3) not more than 40 years of age
- TRAINING INSTITUTIONS** (1) Hachioji International Training Centre (HITC), JICA (2) Japan Petrochemical Industry Association (JPCA)

**CHEMICAL TECHNOLOGY**

Aug. 29, '94 - Aug. 27, '95, 7 participants

化学技術研究

J-94-00285

- PURPOSE** The course is designed for researchers presently engaged in chemical technology in developing countries to upgrade their technical knowledge and research skills in the said field. Various experiences obtained throughout the training would hopefully give an incentive to their future research work. It is not the purpose of the course to familiarize the participants with existing technologies that can be immediately applied in their countries, but rather to have them acquainted with the methods used in conducting basic research.
- MAIN FEATURES OF CURRICULUM** This course consists of individual training (11 months) in the laboratory. Each participant is to take one of the following subjects for their individual research: (1) molecular characterization and functionalization of chitosan (2) synthesis of specialized surfactants and their application (3) preparation and analysis of inclusion compound containing organofluorine substance and its application (4) elimination and degradation of toxic substances in liquid and gas phases (5) development of inorganic membranes and membrane reactors (6) advanced technique for treatments of waste water containing organic materials (7) structural characterization of organic thin films by electron microscopy and scanning tunneling microscopy (8) physico-chemical studies on surfactants at interfaces (9) molecular thin films of polysilanes (10) preparation of advanced inorganic materials and their application to catalysis, absorbents, chromatograph reagents etc. (11) utilization of high-pressure technique in the fats and oils industry (12) study on basic technology in catalysis (13) studies on molecular characterization of polymers (14) syntheses of pharmacologically active organometallic complexes and their biological studies (15) yeast gene engineering-gene expression in yeast and its application (16) lipid chemistry
- QUALIFICATION OF APPLICANT** (1) university graduate in chemical technology with occupational experience of more than three years in respective research fields of chemical technology. Administrative officers are not qualified for this training course. (The purpose of the course is to train applicants to become a leading researcher capable of contributing to the industry of their countries in the future.) (2) between 25 and 40 years of age
- TRAINING INSTITUTIONS** (1) Tsukuba International Centre (TBIC), JICA (2) National Institute of Materials and Chemical Research (3) National Institute of Bioscience and Human-Technology
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for one month (110 hours).

**CATALYTIC SCIENCE**

Aug. 30, '94 - Feb. 23, '95, 5 participants

触媒科学研究

J-94-00337

- PURPOSE** The purpose of the course is to enable participants to understand both basic and practical aspects of catalysis on four main themes in catalysis: heterogeneous catalysis, homogeneous catalysis, surface science and electrocatalysis. It is aimed to help and encourage the participants through laboratory courses in one of these themes to engage themselves in catalytic research field in future.
- MAIN FEATURES OF CURRICULUM** This course mainly consists of individual research work at laboratory. Each participant is to take one of following subjects for their individual research. (1) heterogeneous catalysis-A (advanced catalyst design) (a) catalysis for environmental chemistry and saving natural resources and energy (eg. utilizing and replacing freon gas) (2) heterogeneous catalysis-B (metal complex catalysis) (a) catalysis for removing the harmful gas (nitrogen monoxide) from cars and thermal power plants etc. which causes air pollution and acid rain (3) homogeneous catalysis (catalysis in fine organic synthesis) (a) catalytic asymmetric of optically active compounds applied to medicines and agricultural chemicals (4) surface science (surface structure and properties) (a) surface phenomena such as chemical reaction and crystal growth, etc. (b) design and construction of sophisticated equipment such as low-energy electron diffraction and high-energy electron diffraction (5) electrocatalysis (interfacial energy conversion) (a) high efficiency of energy conversion in electrochemical systems, typically, transportable fuel cell used as advanced fuels (b) electrochemical aspects of cold fusion (nuclear fusion in cold temperature)
- QUALIFICATION OF APPLICANT** (1) engaged in surface chemistry, organic chemistry, synthetic chemistry, applied chemistry, industrial chemistry, materials chemistry, catalytic science, electrochemistry or related fields (2) have a master's degree or be equivalent with scientific experience of more than two years after university graduation (3) over 25 and under 40 years of age
- TRAINING INSTITUTIONS** (1) Hokkaido Branch Office, JICA (2) Catalysis Research Center, Hokkaido University

**BIOINDUSTRIES**

May 9, '94 - Aug. 1, '94, 8 participants

バイオインダストリー

J-94-00357

- PURPOSE** The course aims at providing experts who are at present engaged in research/educational institutions or industries with more knowledge on bioindustry
- MAIN FEATURES OF CURRICULUM** This course mainly covers: (1) Japanese bioindustry (2) material production in biotechnology (3) fermentation industry in Japan (4) plant cell engineering (5) recombinant DNA technology (6) bioreactor, cell fusion, biomolecule purification (7) bio-tec supporting equipment and system (8) utilization of microbial cell and energy (9) alcohol production from biomass (10) food biotechnology, microbial and enzyme conversion (11) materials for molecular biology (12) marine biotechnology, human and animal cell engineering (13) enzyme industries, biosensing (14) new development of bioindustry policy
- QUALIFICATION OF APPLICANT** (1) expert presently engaged in biotechnology and related technology at industry, research/educational institutes with more than two years of experience (2) university graduate or equivalent (3) between 25 to 45 years of age
- TRAINING INSTITUTIONS** (1) Nagoya International Training Centre (NITC), JICA (2) Japan Bioindustry Association (JBA) (3) public institutes, universities, industries
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (50 hours).

**ORGANIC FINE-CHEMICALS TECHNOLOGY**

Aug. 22, '94 - Dec. 18, '94, 6 participants

有機ファインケミカルズ工学

J-94-00381

- PURPOSE** The participants of this course, who are researchers and engineers engaged in research on the synthesis of organic fine-chemicals and the development of their applications and uses, will be introduced to techniques of synthesis, analysis and control of environmental pollution through lectures, practices and observations. It is hoped that they will contribute to the development of knowledge and technologies in the relevant field in their countries.
- MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on laboratory experiments. The main themes are: (1) industrial organic chemistry (lecture) (2) organic unit reactions (lecture, practice) (nitration, reduction, diacylation, sulfonation) (3) instrumental analysis (lecture, practice) (GC, LC, MASS, NMR, IR, UV, EA, light scattering, zeta potential, ion chromatography, capillary GC, DSC) (4) organic synthetic chemistry (lecture, practice) (5) organic chemistry and organic structure (6) synthesis of color-material (e. g., dye-stuff), and application techniques (lecture, practice) (7) textile processing and dyeing techniques (lecture) (8) synthetic methods of intermediate products of pharmaceutical drugs and pesticides (lecture, practice) (9) detergent-cleaning techniques (lecture, practice) (10) adsorption materials techniques (lecture, practice) (11) environmental pollution control techniques (lecture, practice)
- QUALIFICATION OF APPLICANT** (1) hold master's degree in organic chemistry, or organic industrial chemistry (especially, synthesis and application of color-stuff chemistry, dyes, detergents or organic chemicals' intermediates), (2) between 25 and 40 years of age (3) more than three years of experience of manufacture, application or research in organic chemical technology
- TRAINING INSTITUTIONS** (1) Osaka International Centre (OSIC), JICA (2) Osaka Municipal Technical Research Institute (OMTRI)
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for one week.

**POLYMER SCIENCE AND TECHNOLOGY**

June 27, '94 - Jan. 29, '95, 5 participants

高分子研究

J-94-00268

- PURPOSE** This course is designed for junior researchers presently engaged in polymer science and technology to upgrade their technical knowledge and research skills in the said field. Various experience obtained throughout the training would hopefully give an incentive to their future research work. It is not the purpose of the course to familiarize the participants with existing technology that can be immediately applied in their countries; but rather to have them acquainted with the methods used in conducting basic research.
- MAIN FEATURES OF CURRICULUM** This course consists of common subjects for all participants (1 week) and individual training in the laboratory. Each participant is to take one of the following subjects for their individual research. (1) synthesis and characterization of photofunctional polymers (2) molecular characterization of polymers (3) synthesis and properties of poly (siloxanes) (4) photochemical behavior of cyclic and acyclic olefines in polar solvents (5) characterization of superstructure of thin polymer films (6) structure and properties of oriented semi-crystalline polymers (7) preparation and characterization of organic polysilanes (8) molecular characterization and functionalization of chitosan (9) preparation of high-performance hollow fibers and their characterization
- QUALIFICATION OF APPLICANT** (1) researcher with a bachelor's degree, capable of carrying out basic research in the field of polymer science and technology (2) presently engaged in research work in the field of polymer science and technology, and have occupational experience of more than three years in the said field. Administrative officers are not qualified for this course (3) over 25 and under 35 years of age
- TRAINING INSTITUTIONS** (1) Tsukuba International Centre (TBIC), JICA (2) National Institute of Materials and Chemical Research (NIMC)
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (50 hours).

**POLYMER MATERIALS AND TECHNOLOGY**

May 9, '94 - Aug. 28, '94, 6 participants

高分子材料工学

J-94-00394

- PURPOSE** The course aims to introduce to the participants knowledge and techniques concerning manufacture and quality control of polymer materials, and to foster competent specialists who are able to test and evaluate polymer materials, based on broad and profound knowledge and experience in their specialized field.
- MAIN FEATURES OF CURRICULUM** In this course the emphasis is put on laboratory experiments. The main themes are: (1) properties of polymer materials and their manufacture (2) evaluation and testing techniques of polymer materials (3) molding techniques (4) application techniques of functional polymer materials
- QUALIFICATION OF APPLICANT** (1) university / college graduate in chemistry or chemical engineering, or equivalent (2) at least 3 years of experience in polymer technology (3) between 25 and 35 years of age
- TRAINING INSTITUTIONS** (1) Osaka International Center (OSIC), JICA (2) Osaka Municipal Technical Research Institute (OMTRI)
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks.

**ADVANCED GLASS TECHNOLOGY**

Jan. 16, '95 - July 9, '95, 6 participants

先進ガラス材料

J-94-00443

- PURPOSE** This course is organized to introduce comprehensive knowledge on advanced glass materials to engineers, technologists and researchers well versed in glass technology. It is hoped that this course will be of help in fostering glass technologists who can play a leading role in research & development and study groups in the field of glass technology in developing countries.
- MAIN FEATURES OF CURRICULUM** This course consists of common subjects for all participants and individual research work at laboratory. (1) lectures: advanced glass materials (7 days) (2) practices: preparation of glass samples, atomic absorption method (6 days) (3) specialized training (5 months). Each participant is to take one of the following subjects for their individual research. (a) study of glass structure (b) structure and physical properties of ion-implanted glass (c) chemical resistance of glass (d) crystallization of glass under microgravity (e) separation property of porous glass (f) preparation and structure of halide glass, excluding fluorides (g) quartz glass
- QUALIFICATION OF APPLICANT** (1) university graduates with a minimum of a masters degree in a technology-related subject (2) senior engineer employed by governmental research or educational institution, or government companies, and engaged in research and development and/or manufacture in the field of glass technology, OR senior engineer employed by private company and engaged in research and development and/or manufacture in the field of glass technology (3) under 35 years of age (4) at least three years' occupational experience in this field
- TRAINING INSTITUTIONS** (1) Osaka International Centre (OSIC), JICA (2) Government Industrial Research Institute, Osaka (GIRIO)
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks.

**QUALIFIED METAL CASTING TECHNOLOGY II  
(ADVANCED FOUNDRY ENGINEERING)**

Sep. 5, '94 - Mar. 3, '95, 5 participants

高品位鋳物技術II

J-94-00021

- 1. PURPOSE** The purpose of the course is to provide engineers who are presently engaged in research institutes or industries with techniques and knowledge on problems of quality and productivity of metal castings; from sand control, modern moulding processes and casting design to melting control of metals, especially ferrous metal castings.
- 2. MAIN FEATURES OF CURRICULUM** This course mainly covers: (1) foundry sands and modern moulding processes (2) casting design (3) melting and casting techniques (4) equipment modernizations (5) advanced materials and technologies
- 3. QUALIFICATION OF APPLICANT** (1) engineer presently engaged in actual works of foundry engineering/technology at industry/research or educational institute with more than five years of experience (2) university graduate or equivalent (3) between 27 and 40 years of age
- 4. TRAINING INSTITUTIONS** (1) Nagoya International Training Centre (NITC), JICA (2) Nagoya Government Industrial Research Institute, Nagoya (GIRIN) (3) Industrial Research Institute, Aichi Prefectural Government
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for four weeks (100 hours).

**SURFACE MODIFICATION TECHNOLOGY FOR MATERIALS  
(ANTI-CORROSION, SURFACE TREATMENT OF METAL, NON-METAL, NEW-MATERIALS) II**

May 9, '94 - Sep. 15, '94, 5 participants

表面改質技術(金属・非金属・新素材及び防食) II

J-94-00066

- 1. PURPOSE** The aim of the course is to help the senior administrative engineers of governmental organizations to have broader views on construction engineering by introducing the latest techniques and information related to construction engineering, thus to contribute to the development of human resources in this field of developing countries.
- 2. MAIN FEATURES OF CURRICULUM** This course mainly covers: (1) materials (metals and metallurgy, corrosion of metals) non-metals (composites and new materials) (2) surface modification technology (electro-electroless plating and coating, electroforming, anodising, vacuum metallizing, plasma coating, PVD, CVD, powder coating, phosphating, metal colouring, surface hardening & strengthening, ion-plating, ceramic film coating) (3) related technology (resource recycling, waste water treatment, equipment modernization)
- 3. QUALIFICATION OF APPLICANT** (1) university graduate or equivalent (2) qualified in their respective fields (3) occupational experience of more than two years (4) under 40 years of age
- 4. TRAINING INSTITUTIONS** (1) Nagoya International Training Centre (NITC), JICA (2) Industrial Research Institute, Aichi Prefectural Government (3) Nagoya University (4) private industries and other institutes
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for three and a half weeks (85 hours).

**ARC FURNACE AND CONTINUOUS CASTING  
CONTROL TECHNOLOGY**

Oct. 31, '94 - Mar. 3, '95, 8 participants

電炉・連鋳管理技術

J-94-00204

- 1. PURPOSE** The purpose of this training course is to provide engineers who are presently engaged in the field of electrical steel making with comprehensive knowledge of controlling arc furnace and continuous casting operations.
- 2. MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on lectures and observations. The main themes are: (1) steel materials (2) electric arc furnace equipment and control units (3) electrical steel making and its control (4) continuous casting operation and computerized control (5) secondary refining technology (6) quality control
- 3. QUALIFICATION OF APPLICANT** (1) university graduate in metallurgical or mechanical engineering or equivalent (2) currently engaged in the field of electrical steel making for more than three years preferably at steel making plant and not be academic researches or technicians (3) under 35 years of age
- 4. TRAINING INSTITUTIONS** (1) Nagoya International Training Centre (NITC), JICA (2) Aichi Steel Works, Ltd. (3) Chubu Steel Works, Ltd. (4) Daido Steel Co., Ltd. (5) Topy Industries Ltd. (6) other public institutions and private enterprises
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for three weeks (80 hours).

**STEEL PROPERTIES AND ITS APPLICATIONS**

June 6, '94 - Oct. 9, '94, 9 participants

鋼材の加工と加工特性

J-94-00256

- 1. PURPOSE** The purpose of this training course is to provide participants with indispensable knowledge and techniques in the usage of steel, the selection of fabrication methods and conditions appropriate to the properties of each type of steel.
- 2. MAIN FEATURES OF CURRICULUM** Participants will understand steel properties and its application through acquiring knowledge of production methods, processes, property evaluation, testing and inspection methods of steel materials. The subjects covered in the course are: (1) fundamental properties of steel (2) steel production and properties (3) techniques of testing and inspection (4) casting, forging and welded structures (5) quality control
- 3. QUALIFICATION OF APPLICANT** (1) have more than three years' occupational experience in the field of production, fabrication or inspection of steel products (2) university graduate or equivalent in metallurgy or mechanical engineering (3) 35 years of age or less
- 4. TRAINING INSTITUTIONS** (1) Kyushu International Centre (KIC), JICA (2) Kitakyushu International Techno-cooperative Association (3) Kyushu Institute of Technology
- 5. REMARKS** A compulsory 25 hour Japanese language course will be conducted prior to the technical training.

**HEAT TREATMENT TECHNOLOGY**

Sep. 12, '94 - Dec. 8, '94, 8 participants

熱処理技術

J-94-00260

- 1. PURPOSE** The purpose of the course is to train the participants who are engaged in research institutes or industries with techniques and knowledge on heat treatment; especially for motor vehicle and related industries so as to enable them to contribute to promotion and modernization of industries in their countries through upgrading the reliability of machinery and metallic products.
- 2. MAIN FEATURES OF CURRICULUM** This course mainly covers: (1) carbon steels, alloyed steels, metal composites (2) heat treatment furnaces and related installations (3) annealing, tempering, quenching, normalizing, carburizing, nitriding, etc. (4) related technologies; ion-nitriding, surface modification, etc.
- 3. QUALIFICATION OF APPLICANT** (1) engineer presently engaged in heat treatment technology at industry/research or educational institutes with more than two years of experience (2) university graduate or equivalent (3) between 30 and 40 years of age
- 4. TRAINING INSTITUTIONS** (1) Nagoya International Training Centre (NITC), JICA (2) Industrial Research Institute, Aichi Prefectural Government (3) Aichi Industrial Research Association (AIRA)
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (50 hours).

**MAINTENANCE OF CONSTRUCTION MACHINERY II**

May 12, '94 - Aug. 7, '94, 9 participants

建設機械整備II

J-94-00162

- 1. PURPOSE** The purpose of the course is to provide participants with techniques and knowledge on planning and management of maintenance shops as well as maintenance of construction machinery.
- 2. MAIN FEATURES OF CURRICULUM** Most part of this course is practical training at factories and workshops, using actual construction machinery. It covers; (1) theoretical aspects of management and maintenance (2) practical maintenance techniques of major components (engine, clutch, torque converter, transmission, power shift transmission, final drive, differential gear, brake, steering, hydraulic system, undercarriage, etc.) (3) practical maintenance/operation techniques of major machines (bulldozer, grader, wheel-loader, hydraulic excavator, crane, compaction machinery, dump truck, etc.)
- 3. QUALIFICATION OF APPLICANT** (1) university graduate in mechanical engineering or equivalent with more than three years of occupational experience (2) under 40 years of age (3) presently engaged in or expected to be engaged in planning and administration work of construction machinery in the near future
- 4. TRAINING INSTITUTIONS** (1) Tokyo International Center (TIC), JICA (2) Construction Equipment Division, Ministry of Construction (3) Japan Construction Mechanization Association (JCMA)

**D'ENTRETIEN ET DE REPARATION DE L'EQUIPEMENT DE CONSTRUCTION**

Oct. 3, '94 - Dec. 18, '94, 8 participants

建設機械整備(仏語)

J-94-00319

- 1. BUT** Le cours est destiné au personnel technique ayant les services d'entretien et de gestion des machines de construction dans les pays participants et vise à leur fournir les informations récentes de notre pays sur la spécialité concernée pour contribuer, finalement au développement technique des pays respectifs par l'assimilation technique.
- 2. CARACTÉRISTIQUES DU COURS** Le présent cours se caractérise par le déroulement de stage à quelques constructeurs d'équipements de construction. Cela facilitera l'acquisition de connaissances sur l'entretien et la réparation des équipements de construction ainsi que la gestion de l'atelier de l'entretien. Théorique gestion de l'équipement de construction, heure-homme standard de réparation, coût de possession de l'équipement de construction, gestion de l'atelier, carburant et lubrifiant, inspection des pièces, soudure. Pratique moteur, système d'embrayage, convertisseur de couple, boîte des vitesses, bulldozer, chargeur, excavateur hydraulique, compacteur
- 3. CAPACITÉS DES CANDIDATS** (1) à présent engagés plus en possession de plus de trois ans d'expérience dans le domaine de l'entretien d'équipement de construction (2) âgés de plus de 25 ans et de moins de 35 ans (3) dotés d'une connaissance suffisante de la langue française
- 4. INSTITUTION DU STAGE** (1) Hachioji International Training Centre (HITC), JICA ou Centre de Formation Internationale de Hachioji (2) Division de l'Équipement de Construction, Ministère de la Construction (3) Japan Construction Mechanization Association (JCMA) ou Association Japonaise de Mécanisation de Construction
- 5. REMARQUES** Le cours s'effectuera en français ou par traduction du japonais en français.

**MECANIQUE AUTOMOBILE VEHICULES DIESEL (AUTOBUS, CAMIONS POIDS-LOURD)**

Jan. 9, '95 - Mar. 26, '95, 11 participants

バス・トラック整備技術(仏語)

J-94-00234

- 1. BUT** Ce cours est destiné aux mécaniciens travaillant à l'entretien des autobus et des camions poids-lourd. Il vise à leur fournir les connaissances fondamentales sur le mécanisme et le fonctionnement des véhicules diesel par le cours théorique et les travaux pratiques, ainsi que les techniques de réparation et d'entretien.
- 2. CARACTÉRISTIQUES DU COURS** Le présent cours se caractérise par l'acquisition des techniques d'entretien efficaces à travers les cours théoriques et les travaux pratiques pour chaque matière. A la fin de ce stage, les participants auront acquis les connaissances fondamentales sur les théories, les techniques de réparation et d'entretien ci-dessous concernant les autobus et les camions: moteur diesel et équipement périphériques, boîte des vitesses, pompe d'injection distributrice, freinage, essieux avant et arrière et différentiel, équipement électrique
- 3. CAPACITÉS DES CANDIDATS** (1) en possession de plus de trois ans d'expérience dans le domaine de l'entretien et la réparation des véhicules diesel (2) âgés de plus de 25 ans et de 35 ans (3) dotés d'une connaissance suffisante de la langue française
- 4. INSTITUTION DU STAGE** (1) Hachioji International Training Centre (HITC), JICA (2) La Société de Fabrication Automobile de Hino (Hino Motors Limited)
- 5. REMARQUES** Le cours s'effectuera en français ou par traduction du japonais en français.

**PLANT MAINTENANCE ENGINEERING**

May 9, '94 - Sep. 30, '94, 8 participants

プラントメンテナンス技術

J-94-00286

- PURPOSE** The purpose of this course is to enhance the capability of maintenance managers or engineers of continuous process plants who intend to introduce a preventive maintenance system in a plant, or have already introduced the system but have problems in carrying out the system smoothly.
- MAIN FEATURES OF CURRICULUM** In this course, emphasis is put on the introduction of basic subjects of computerized *maintenance management and techniques*, as well as practical maintenance technology and effective maintenance management on the factory floor through plant visits. The course covers: (1) computers and their applications (2) maintenance of automatic control systems (3) metal fatigue and fractography (4) equipment inspection techniques (5) non-destructive testing (6) tribology and abrasion resistance (7) lubrication techniques (8) heat treatment and hard facing
- QUALIFICATION OF APPLICANT** (1) engineer or manager with more than three years' occupational experience in the field of plant maintenance work (2) presently in charge of maintenance work in continuous process plants, such as iron and steel, oil refinery or chemical, cement plant, automotive plant, etc. (3) university graduate or equivalent (4) 45 years of age or less
- TRAINING INSTITUTIONS** (1) Kyushu International Centre (KIC), JICA (2) Kitakyushu International Techno-cooperative Association (3) Kyushu Institute of Technology (4) Nippon Steel Corporation
- REMARKS** A compulsory 25 hour Japanese language course will be conducted prior to the technical training.

**AUTOMATIC CONTROL  
(GENERAL INTRODUCTION)**

July 4, '94 - Nov. 24, '94, 7 participants

自動制御

J-94-00310

- PURPOSE** This training course is programmed for those who specialized in mechanical engineering, electrical engineering and measurement in the faculty of technology at university. The purpose of the course is to provide participants with basic theory and practice on automatic control, automatic control devices and related technology.
- MAIN FEATURES OF CURRICULUM** The course is conducted in the form of lectures, practice, exercise on simulator and factory observations, in order to cultivate participants' own basic and practical knowledge of automatic control so as to prevent malfunction and damage of the whole system in plant. The following subjects are mainly covered in the course: (1) basic of automatic control (2) basic of control theory (3) computer literacy (4) basic lesson and application of micro computers (5) process control (6) digital process control system simulation (7) sequency control (8) industrial electric control system
- QUALIFICATION OF APPLICANT** (1) have more than four years of occupational experience in the field of production, planning of plants and machinery (2) presently engaged in automation, or will be engaged in, in the near future (3) university graduate in electrical, control or mechanical engineering, or equivalent (4) 40 years of age or less
- TRAINING INSTITUTIONS** (1) Kyushu International Centre (KIC), JICA (2) Kitakyushu International Techno-cooperative Association (3) Kyushu Institute of Technology (4) Fukuoka Industrial Technology Center, Mechanics and Electronics Research Institute
- REMARKS** A compulsory 25 hour Japanese language course will be conducted prior to the technical training.

**MACHINE CONDITION DIAGNOSIS TECHNIQUE  
(INSPECTION TECHNIQUE FOR PLANT MAINTENANCE)**

June 27, '94 - Oct. 23, '94, 9 participants

設備診断技術

J-94-00338

- PURPOSE** This training course is set up for maintenance directors, managers and engineers in developing countries who are responsible for planning, management and supervision of maintenance activities. The purpose of the course is to provide participants with new inspection techniques for plant maintenance including the latest diagnosis techniques and condition based maintenance system.
- MAIN FEATURES OF CURRICULUM** The training course is programmed to help participants acquire knowledge on inspection techniques including the latest condition diagnosis techniques and condition based maintenance in practice through a series of lectures, practice with simulators and plant observations. The following subjects are covered in the course: (1) introduction to maintenance management and engineering (2) reliability and maintainability engineering (3) fundamental of machine condition diagnosis technique (CDT) (4) vibration and its measurement (5) vibration analyzing instrument (6) diagnosis methods for rotating machines and elements (7) basic concept of condition based maintenance system (CBM) (8) non-destructive testing (9) maintenance control (10) application of computer system to CDT and maintenance control (11) practice of maintenance management and machine diagnosis (12) corrosion diagnosis (13) diagnosis of electrical machines (14) total productive maintenance (TPM)
- QUALIFICATION OF APPLICANT** (1) presently engaged in maintenance work in industrial plants and have more than three years of maintenance experience (2) have more than one year of experience in computer operation (3) university graduate in engineering or equivalent (4) 35 years of age or less
- TRAINING INSTITUTIONS** (1) Kyushu International Centre (KIC), JICA (2) Kitakyushu International Techno-cooperative Association (3) Kyushu Institute of Technology
- REMARKS** A compulsory 25 hours Japanese language course will be conducted prior to the technical training.

**PLANT MAINTENANCE MANAGEMENT**

Jan. 16, '95 - May 20, '95, 9 participants

保全管理

J-94-00413

- PURPOSE** The purpose of this course is to enhance the maintenance management capability of the managers and engineers in the maintenance departments of processing industries. The course provides the participants with training on effective and rationalized utilization of management resources such as workers, materials, equipment, information and funds. The course also aims at technical transfer of concrete maintenance management procedures required for the execution of preventive maintenance.
- MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on the introduction of Japanese experience or the present state of the maintenance management of leading Japanese companies of various industrial fields to enable participants to apply and manage the maintenance function of each corporation in respective countries. The subjects covered in the course are: (1) outline of maintenance and its system (2) management of plants (3) computer literacy (4) management policy and control (5) maintenance of bearing (6) actual samples of corrosion and countermeasures (7) the diagnosis technique of machine (8) non-destructive tests (9) training of repairing techniques (10) improvement methods (11) repairing and change of parts (12) inspection of electric equipment manufacturing and maintenance of electric equipment (13) management and data (14) how to make inspection plan (15) scheduled time for repairing and repairing plan (16) control of maintenance materials, and management of welding and assembling (17) activities of maintenance in Japanese leading factories
- QUALIFICATION OF APPLICANT** (1) have more than three years' occupational experience in the field of plant maintenance (2) university graduate or the equivalent in engineering (3) not less than 30 and not more than 40 years of age
- TRAINING INSTITUTIONS** (1) Kyushu International Centre (KIC), JICA (2) Kitakyushu International Techno-cooperative Association
- REMARKS** A compulsory 25 hour Japanese language course will be conducted prior to the technical training.

**MECHANICAL SPARE PARTS FOR PLANT MAINTENANCE  
(DESIGN, MANUFACTURING, TESTING AND MANAGEMENT)**

May 30, '94 - Oct. 28, '94, 8 participants

プラント用機械保全部品

J-94-00339

- PURPOSE** This training course is set up for the plant maintenance managers or engineers in charge of spare parts control, procurement or manufacture of the parts. The purpose of the course is to enable participants to: (1) make out the plannings, designs or documents necessary to order spare parts for the domestic manufacturer (2) develop their ability to instruct and control the quality, cost or delivery for the domestic parts manufacturer (3) develop their ability to improve parts for prolonging useful life or reclaim broken or damaged parts
- MAIN FEATURES OF CURRICULUM** Participants will acquire the knowledge and techniques required for the domestic production or reclamation of spare parts. The main themes are: (1) basic subjects on machine parts and unit design techniques (2) systematizing inventory control of spare parts for repairs (3) analyzing the causes of machine parts breakdown (4) choosing proper materials as well as improving the materials by heat treatment or surface processing (5) improving parts design for longer life (6) preparation of technical specification for ordering spare parts and/or basic knowledge required for instructing parts manufacturers (7) techniques on reclaiming broken or damaged spare parts (8) applying computer to design and control of spare parts
- QUALIFICATION OF APPLICANT** (1) have 5 to 15 years' occupational experience in the field of maintenance engineering (2) in charge of spare parts making, purchasing and controlling of spare parts (3) university graduate or the equivalent in mechanical engineering (4) between 27 and 40 years of age
- TRAINING INSTITUTIONS** (1) Kyushu International Centre (KIC), JICA (2) Kitakyushu International Techno-cooperative Association (3) Fukuoka Industrial Technology Center
- REMARKS** A compulsory 25 hour Japanese language course will be conducted prior to the technical training.

**FACTORY MANAGEMENT FOR PRODUCTION  
MANAGERS IN MACHINING INDUSTRY**

May 9, '94 - Sep. 15, '94, 7 participants

生産工程管理技術

J-94-00266

- PURPOSE** The purpose of the course is to provide production managers and industrial engineers with practical knowledge and application on process design and improvement related to jigs and fixtures vis-a-vis factory management. Furthermore, the course aims to develop the capability to establish an effective production system which can fully utilize existing manufacturing technology and skill.
- MAIN FEATURES OF CURRICULUM** In the course, the emphasis is put on lectures, practical training and observations. The main themes are: (1) industrial development from macroscopic viewpoint (2) practical knowledge of jigs and fixtures (3) application of jigs and fixtures to process design and improvement (4) practices of plant management (5) plant improvement techniques (6) integrated production system
- QUALIFICATION OF APPLICANT** (1) university graduate or equivalent with occupational experience of more than five years (2) in charge of production management, industrial engineering, production engineering, etc. (production manager, supervisor and industrial engineer are most preferable. engineers in other field of engineering will be acceptable.) (3) under 45 years of age
- TRAINING INSTITUTIONS** (1) Nagoya International Training Centre (NITC), JICA (2) CHU-SAN-REN (Central Japan Industries Association) (3) related industries
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (85 hours).

**HIGH TECHNOLOGY OF METAL WORKS II**

Sep. 12, '94 - Mar. 3, '95, 6 participants

金属加工高品質化技術II

J-94-00175

- PURPOSE** The course aims at providing engineers who are at present working at research institutes or industries with techniques and knowledge on metal works engineering; die making and design, precision measurement, metal working and related technologies.
- MAIN FEATURES OF CURRICULUM** This course mainly covers: (1) metal works technologies (2) die-making and design including CAD/CAM (3) precision measurement technology (4) related technologies; heat treatment, surface modification, etc.
- QUALIFICATION OF APPLICANT** (1) engineer presently engaged in metal works technology at industry/research or educational institutes with more than two years of experience (2) university graduate or equivalent (3) between 26 and 35 years of age
- TRAINING INSTITUTIONS** (1) Nagoya International Training Centre (NITC), JICA (2) Government Industrial Research Institute, Nagoya (GIRIN) (3) Industrial Research Institute, Aichi Prefectural Government (4) Aichi Industrial Research Association (AIRA)
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for four weeks (100 hours).

**AIR-CONDITIONING ENGINEERING**

Aug. 8, '94 - Dec. 7, '94, 6 participants

空調技術

J-94-00383

- PURPOSE** This course is organized for the purpose of fostering middle class administrative engineers who are equipped with comprehensive techniques and knowledge required to design, install, operate, and maintain various kinds of most advanced air-conditioning systems. It is expected of them to train engineers and give them proper instructions and advice, after finishing this course.
- MAIN FEATURES OF CURRICULUM** This course consists of lectures and practices as follows: (1) hardware (fundamentals of air conditioner) (2) software (general study of air conditioning systems) (3) quality control (a) process management (b) quality control technology (4) practice (a) general work of system design (b) drawing up plans (c) application designing of equipment (d) execution of general design work (5) factory visits for related equipment
- QUALIFICATION OF APPLICANT** (1) graduates from university majoring in the field of mechanical engineering or electrical engineering (2) under 40 years of age (3) experience of at least three years in air-conditioning engineering including system layout
- TRAINING INSTITUTIONS** (1) Osaka International Centre (OSIC), JICA (2) Kanaoka Training Center, Sakai Plants, Daikin Industries Ltd. (3) Daikin Plant Co., Ltd.
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks.



**DESIGN (CAD) AND MANUFACTURING OF MATERIAL HANDLING EQUIPMENT (CRANE)**

Nov. 28, '94 - Apr. 23, '95, 8 participants

荷役機械の設計・製造

J-94-00414

- PURPOSE** Manufacturing machinery requires the integrated technical knowledge of design (mechanical and electrical), fabrication, machining, assembly, inspection and production management. Taking the above requirements into consideration, the course aims at providing participants with techniques in design, manufacture and maintenance of materials handling equipment through adopting the overhead travelling crane, which is a versatile type of equipment, with a simple structure.
- MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on the practical exercise of designing by using computers and other basic manufacturing technology. The subjects covered in the course are: (1) machine design and modules including CAD and design with personal computers (2) design of electrical control systems including sequence control technology (3) manufacture, machining and control methods of machine parts (4) assembly, measurement and inspection of machinery, and its management methods (5) machinery maintenance and management methods (6) outline of physical distribution technology (7) new industrial materials.
- QUALIFICATION OF APPLICANT** (1) have more than three years' occupational experience in the field of machine design or manufacturing (2) university graduate in engineering or the equivalent (3) 40 years of age or less
- TRAINING INSTITUTIONS** (1) Kyushu International Centre (KIC), JICA (2) Kitakyushu International Techno-cooperative Association
- REMARKS** (1) A compulsory 25 hour Japanese language course will be conducted prior to the technical training.

**OIL HYDRAULICS AND ITS APPLICATION**

Oct. 31, '94 - Mar. 24, '95, 7 participants

油圧とその応用

J-94-00415

- PURPOSE** The purpose of the course is to enhance the capabilities of the engineers who have had an experience in the field of oil hydraulics such as designing, manufacturing, operation or maintenance. The knowledge and techniques acquired through the training course will enable participants to: (1) understand the fundamental concept of oil hydraulic engineering from basic components to sophisticated applications, (2) gain fundamental knowledge of applying hydraulic systems to machinery systems, (3) be familiar with comparative ideas of hydraulic systems and pure mechanical, electrical and pneumatic methods.
- MAIN FEATURES OF CURRICULUM** Participants are to attend lectures on the basic subjects such as the construction or various hydraulic components with up-to-date production drawings and many samples of oil hydraulic components. The participants will proceed to practical designing of basic applications through lectures, field trips and observations. The subjects covered in the course are: (1) introduction to oil hydraulics (2) primarily applied hydraulics (3) equipment manufacturers' comments (4) applied hydraulics to machinery system (5) maintenance of hydraulic systems
- QUALIFICATION OF APPLICANT** (1) have occupational experience of planning, design, application or maintenance of hydraulic (2) university graduate or equivalent (3) 35 years of age or less
- TRAINING INSTITUTIONS** (1) Kyushu International Centre (KIC), JICA (2) Kitakyushu International Techno-cooperative Association
- REMARKS** A compulsory 25 hours Japanese language course will be conducted prior to the technical training.

**INSPECTION AND TESTING TECHNIQUES FOR HOUSEHOLD ELECTRICAL APPLIANCES**

Sep. 21, '94 - Nov. 30, '94, 5 participants

家庭用電気製品検査技術

J-94-00416

- PURPOSE** The purpose of this course is to introduce to the participants inspection and testing techniques for household electrical appliances by providing lectures and practical training, in order to help these countries develop or maintain their industrial product quality and strengthen their competitive positions in the world market. The course is expected to be one of the measures aimed at overcoming the trade imbalance problem.
- MAIN FEATURES OF CURRICULUM** This course consists of lecture, practical training and observation tour. Participants are expected to learn inspection and testing techniques for household electrical appliances through lecture, practical training and observation tour.
- QUALIFICATION OF APPLICANT** (1) testing staff belonging to government inspection organization, or public institution authorized by government inspection organizations, or under the control of the government (2) be with more than three years of occupational experience in the field of testing of household electrical appliances (3) college graduate or equivalent, having majored in electrical, electronics, or mechanical engineering (4) between 25 and 40 years of age
- TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) International Trade and Industry Inspection Institute, Ministry of International Trade and Industry (3) JMI Institute (4) Japan Electrical Testing Laboratory (JET)

**SHIPBUILDING, REPAIRING AND MAINTENANCE**

Jan. 9, '95 - Dec. 8, '95, 20 participants

船舶建造メンテナンス

J-94-00464

- PURPOSE** The purpose of the course is to provide participants with fundamental and practical knowledge, and applicable techniques in the field of shipbuilding, repair, inspection and maintenance, and thus to contribute to the development of these fields in the participating countries.
- MAIN FEATURES OF CURRICULUM** This course consists of common subjects (obligatory lectures and practice at shipyards, etc.) for all participants and optional lectures for which participants will be divided into two groups according to their choice. The following major themes will be covered in the course. (1) comprehensive and fundamental knowledge and techniques (basic plan and design, repair, marine engines, electrical and electronic equipment, ships for special purpose, quality assurance and standardization in shipyards, safety, etc.) (2) practical knowledge on building (optional) (hull construction, outfitting, production control, shipyard management, computer applications, etc.) (3) practical knowledge on maintenance (optional) (maintenance of machinery, safety systems and standards, supervision and inspection, etc.)
- QUALIFICATION OF APPLICANT** (1) presently engaged in the either field of (a) construction or repair of ships and offshore structure in shipbuilding or repair yards, (b) control or improvement of ship safety, (c) ordering, ownership and maintenance of ships in a shipping, fishery, or port and harbor organization, or (d) administration, research, education, training etc. concerning the above items (2) university graduate in engineering or equivalent with more than three years of occupational experience in one of the above-mentioned fields, or university graduate in naval architecture (3) not more than 35 years of age
- TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Maritime Technology and Safety Bureau, Ministry of Transport (3) Overseas Shipbuilding Cooperation Center (OSCC)
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for 270 hours.

**AUTOMOBILE SAFETY AND POLLUTION CONTROL TECHNOLOGY**

May 16, '94 - July 10, '94, 15 participants

自動車の安全・公害対策技術

J-94-00475

- PURPOSE** The purpose of this course is intended for administrative engineers in leading posts to prepare and promote policies and measures for socio-economical growth through motorization, and for specialist in the automotive industry in developing countries. The participants in this course will undergo training of highly specialized contents, such as automotive safety, pollution control, energy problems, and new technology applications. It is hoped that this training will be of help not only to foster specialists in automotive engineering but also to assist the plans and development for the socio-economic growth along with motorization. Applicants are requested to note that the programme of this course does not aim at offering techniques and know-how immediately useful in automobile production and repair work.
- MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on introduction of Japanese experience and basic theories of automobile safety and pollution control technology. The main themes are: (1) motor industry in Japan (2) motorization and infrastructure (3) advanced technology (4) structure, performance of technology (5) practice of automobile performance test.
- QUALIFICATION OF APPLICANT** (1) administrative engineer presently engaged in leading post with at least three years experience in promotion of the motorization and automotive industry (2) university graduate with experience in mechanical engineering (3) over 25 and under 40 years of age
- TRAINING INSTITUTIONS** (1) Tsukuba International Centre (TBIC), JICA (2) Japan Automobile Research Institute Inc. (JARI)

**RENOVATION OF INDUSTRIAL EQUIPMENT**

Feb. 20, '95 - July 15, '95, 9 participants

設備のリノベーション

J-94-00488

- PURPOSE** The purpose of this course is to enhance the capability of engineers through learning the basic knowledge to utilize existing equipment and facilities effectively, to find out the capability of the renovation, and to redesign existing equipment by each participant. The course also aims at providing the participants with skills in preparing purchase specifications of improved equipment parts.
- MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on providing the participants with the basic techniques and their application as well as project management which will help them to upgrade their required techniques to improve their operation. The subjects covered in this course are: (1) basic techniques (a) introduction to renovation of industrial equipment (b) computer literacy (c) techniques improving equipment (d) sequence control (e) process control (f) introduction to maintenance (g) maintenance management (h) equipment inspection technique (inspection using five sense, machine condition diagnosis technique) (i) rust prevention and corrosion prevention (j) welding processes (k) selection of materials (l) testing of materials (m) selection of motors and electrical control (n) nondistinctive inspection (o) CAD (2) modification techniques (a) case study of plant design and practice (b) practice in design of heat exchange (c) design of pressure vessels (d) selection of equipment/devices and writing specifications thereof (e) selection of general purpose machines and writing specifications thereof (f) plan and design of piping (g) design of conveyor unit (h) case study of equipment renovation (i) in-plant training
- QUALIFICATION OF APPLICANT** (1) have more than five year's experience in equipment design, construction or maintenance in the field of process industries such as chemical, cement, oil refinery, iron and steel plant (2) university graduate in mechanical or chemical engineering or equivalent (3) 40 years of age or less.
- TRAINING INSTITUTIONS** (1) Kyushu International Centre (KIC), JICA (2) Kitakyushu International Techno-cooperative Association
- REMARKS** A compulsory 25 hour Japanese language course will be conducted prior to the technical training.

**INSPECTION AND TESTING TECHNIQUE FOR TEXTILE PRODUCTS**

Jan. 10, '95 - Mar. 19, '95, 6 participants

繊維製品検査技術

J-94-00417

- PURPOSE** The purpose of this course is to introduce to the participants inspection and testing techniques for textile products by providing lectures and practical training, in order to help these countries develop or maintain their industrial product quality and strengthen their competitive positions in the world market. The course is expected to be one of the measures aimed at overcoming the trade imbalance problem.
- MAIN FEATURES OF CURRICULUM** This course consists of lecture, practical training and observation tour. Participants are expected to learn inspection and testing techniques for textile products through lecture, practical training and observation tour.
- QUALIFICATION OF APPLICANT** (1) testing staff belonging to government inspection organization, or public institution authorized by government inspection organizations, or under the control of the government, with more than three years of occupational experience in the related field (2) college graduate or equivalent, having majored in textile or chemical engineering (3) between 25 and 40 years of age
- TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) International Trade and Industry Inspection Institute, Ministry of International Trade and Industry (3) Japan Synthetic Textile Inspection Institute Foundation (4) Japan Spinners Inspection Foundation (5) Japan Knitting Inspection Institute Foundation (6) Japan Sewing goods Inspection Foundation

**PACKAGING ENGINEERING**

Aug. 29, '94 - Oct. 23, '94, 9 participants

包装技術

J-94-00239

- PURPOSE** The course aims at providing the participants with the opportunity to understand Japan's current technology of packaging, especially focused on "transport packaging" and "consumer (food) packaging", so as to contribute to the economic and social development of the participating countries.
- MAIN FEATURES OF CURRICULUM** The following major subjects will be covered in the course. (1) guidance, introduction, the status of packaging in Japan (2) packaging materials (group A: transport packaging techniques, group B: consumer packaging techniques)
- QUALIFICATION OF APPLICANT** (1) packaging engineer presently directly engaged in package industry (2) have more than three years of experience in the relevant field (3) university graduate or equivalent (4) under 40 years of age
- TRAINING INSTITUTIONS** (1) Tokyo International Center (TIC), JICA (2) Japan Packaging Institute (JPI)

**ADVANCED INDUSTRIAL TECHNOLOGY**

Aug. 29, '94 - July 27, '95, 7 participants

産業技術研究

J-94-00366

- PURPOSE** This course is to acquaint participants with advanced industrial technology in Japan and to help the participants to develop into researchers capable of carrying out the basic research needed to enhance the research potential of their own countries. It is not the purpose of the course to familiarize the participants with existing technology that can be immediately applied in their countries, but rather to have them master the method used in conducting basic research.
- MAIN FEATURES OF CURRICULUM** This course consists of common subjects for all participants and individual training in the laboratory. Each participant is to take one of the 33 subjects prepared by the following 13 institutes for their individual research. The institutes are: (1) National Research Laboratory of Metrology, NRLM (3 subjects) (2) Mechanical Engineering Laboratory, MEL (3 subjects) (3) National Institute of Materials and Chemical Research, NIMC (7 subjects) (4) National Institute of Bioscience and Human-Technology, NIBH (6 subjects) (5) Geological Survey of Japan, GSJ (1 subject) (6) National Institute for Resources and Environment, NIRE (1 subject) (7) Electrotechnical Laboratory, ETL (2 subjects) (8) Government Industrial Research Development Laboratory, Hokkaido, GIDLH (2 subjects) (9) Government Industrial Research Institute, Tohoku, GIRIT (1 subject) (10) Government Industrial Research Institute, Nagoya, GIRIN (2 subjects) (11) Government Industrial Research Institute, Osaka, GIRIO (1 subject) (12) Government Industrial Research Institute, Chugoku, GIRIC (2 subjects) (13) Government Industrial Research Institute, Kyushu, GIRIK (2 subjects)
- QUALIFICATION OF APPLICANT** (1) researcher with a bachelor's degree, capable of carrying out basic research in the field of industrial science and technology (2) presently engaged in research work in the field of industrial science and technology and have occupational experience of more than three years in the said field. Administrative officers are not qualified for this course (3) over 25 and under 35 years of age
- TRAINING INSTITUTIONS** (1) Tsukuba International Centre (TBIC), JICA (2) Agency of Industrial Science and Technology, Ministry of International Trade and Industry
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for four weeks (100 hours).

**ENERGY MANAGEMENT**

Jan. 23, '95 - June 9, '95, 10 participants

エネルギー管理

J-94-00418

- PURPOSE** The purpose of this course is to upgrade the knowledge and skills of managers and engineers on energy management of administration, so as to conserve energy and mitigate environmental pollution through proceeding energy management effectively and add practical effect to production activities.
- MAIN FEATURES OF CURRICULUM** In this course, the emphasis is laid on subjects that will help participants to practically and concretely solve the problems in the field of energy management of their own countries. The subjects covered in the course are: (1) introduction of energy management (2) computer literacy (3) basic thermo-dynamics and basic automatic control (4) heat balance and heat measurement (5) basic theory of electricity (6) methodology of energy conservation (7) energy conservation measures for industrial furnaces (8) energy system for environmental pollution control (9) maintenance management and data (10) in-plant training
- QUALIFICATION OF APPLICANT** (1) have energy management experience or will be in charge of energy management in near future (2) university graduate or equivalent (3) 35 years of age or less
- TRAINING INSTITUTIONS** (1) Kyushu International Centre (KIC), JICA (2) Kitakyushu international Techno-cooperative Association
- REMARKS** A compulsory 25 hour Japanese language course will be conducted prior to the technical training.

**ENERGY CONSERVATION**

May 24, '94 - July 14, '94, 13 participants

省エネルギー

J-94-00315

- PURPOSE** The purpose of the course is to provide the participants with information concerning the administrative and technical aspects of Japan's energy conservation, so that they will be able to later use this knowledge in future energy conservation efforts in their own respective countries.
- MAIN FEATURES OF CURRICULUM** In this course, the following major subjects will be covered through lectures, discussions, group case studies, practice and observation trips. (1) Japanese energy conservation policy and the present conservation situation in Japan (2) development of energy conservation and new technologies in Japan (3) energy conservation situation in major Japanese industries (4) industrial energy conservation technologies (5) methods for promoting energy conservation in industry (6) energy consumption measurement and data analysis (7) group case study presentation of the promotion of energy conservation in a model factory
- QUALIFICATION OF APPLICANT** (1) university/college graduate or equivalent and presently employed in government, governmental institutions, industrial associations, or companies (2) presently engaged in work in the energy field or expected to be engaged in such work after returning to the country
- TRAINING INSTITUTIONS** (1) Tokyo International Center (TIC), JICA (2) Agency of Natural Resources and Energy, Ministry of International Trade and Industry (3) Energy Conservation Center, Japan (ECC)
- REMARKS** Country Reports will be highly utilized both for the selection of participants and for the Comparative Studies.

**HYDRO-ELECTRIC POWER ENGINEERING II  
(FOR CIVIL ENGINEERS)**

May 10, '94 - June 25, '94, 9 participants

水力発電II(土木)

J-94-00055

- PURPOSE** The purpose of the course is to provide the participants with the latest information and knowledge concerning managing and technical aspects of the Japan's hydro-electric power industry so that the participants would be able to play their greater role for further progress and advancement of hydro-electric power generation in their respective country.
- MAIN FEATURES OF CURRICULUM** The course is formulated to cover both aspects of "electrical/mechanical engineering" and "civil engineering" alternatively. This year (Japanese fiscal 1994), civil engineering matters will be focused mainly. The following are the major subjects this year: (1) outline of Japan's electric power industry (2) Japan's government policy and regulation relating to Japan's electric power industry (3) method of planning, designing, construction and operation & maintenance technique of hydro-power stations from the view point of civil engineering
- QUALIFICATION OF APPLICANT** (1) civil engineers who are presently employed by governmental or private hydro-electric power utilities (2) technical college graduate or equivalent and have more than five and less than ten years of practical experience in the field of hydro-electric power engineering
- TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Japan Electric Power Information Center, Inc. (3) Electric Power Development Co., Ltd. (4) Agency of Natural Resources and Energy, Ministry of International Trade and Industry

**OPERATION AND MAINTENANCE OF  
COAL-FIRED THERMAL POWER PLANTS**

Oct. 11, '94 - Nov. 23, '94, 5 participants

石炭火力発電

J-94-00352

- 1. PURPOSE** The purpose of the course is to provide the participants with the information concerned with the administrative and technical aspects of the coal-fired thermal power engineering in Japan so that the participants, as instructors for operation and maintenance staff, would be able to apply the knowledge obtained in the course for the future development in the said field in their countries.
- 2. MAIN FEATURES OF CURRICULUM** Following subjects are referred in the course: (1) operation and maintenance technique of coal-fired thermal power stations in Japan (2) countermeasures for environmental protection (3) Japan's electric power industry (4) Japan's governmental policy and regulation concerned with coal-fired thermal electric power engineering
- 3. QUALIFICATION OF APPLICANT** (1) electrical and/or mechanical engineers presently employed at governmental institutions or private companies in the field of coal-fired thermal electric power generation and have more than five years of occupational experience in this field (2) technical college graduate or equivalent
- 4. TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Japan Electric Power Information Centre, Inc. (3) Electric Power Development Co., Ltd.

**NUCLEAR POWER GENERATION**

Jan. 10, '95 - Mar. 16, '95, 5 participants

原子力発電

J-94-00419

- 1. PURPOSE** The purpose of the course is to provide the participants with general introductory information on the administrative and technical aspects of Japan's nuclear power industry, which includes experience gained through planning, design, construction and operation of nuclear power plants, so that the participants will be able to implement the future development plan of nuclear power in their countries.
- 2. MAIN FEATURES OF CURRICULUM** Major subjects in this course are as follows: (1) lectures (a) outline of nuclear power generation in Japan, safety regulation and administration for commercial nuclear power plants, (b) major system of boiling water reactor and pressurized water reactor, (c) construction of nuclear power plant, (d) operation and maintenance (2) exercise (a) operation and plant behaviour related to plant start-up, shutdown and accidents, etc. by using a compact simulator (b) maintenance and inspection (non-destructive test)
- 3. QUALIFICATION OF APPLICANT** (1) nuclear, electrical and/or mechanical engineers presently employed at governmental institutions or private companies in the field of electric power generation and have more than three years of occupational experience in this field (2) university graduate or equivalent (3) not more than 45 years of age
- 4. TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Japan Electric Power Information Center, Inc. (JEPIC) (3) Japan Atomic Power Company (JAPC) (4) Agency of Natural Resources and Energy, Ministry of International Trade and Industry

**ELECTRIC POWER MANAGEMENT-II**

Sep. 8, '94 - Oct. 24, '94, 11 participants

電気事業経営II

J-94-00153

- 1. PURPOSE** The purpose of the course is to introduce participants to Japan's electric power industry focusing on management methods adopted in Japan for maintaining stable supply of electric power to cope with the increasing power demand.
- 2. MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on lectures, which mainly cover the following topics: (1) outline of the electric power industry in Japan (2) power development plan (3) automatic load dispatching system (4) power system planning and operation (5) electricity sales (6) power distribution (7) financial management (8) personnel development and labor management
- 3. QUALIFICATION OF APPLICANT** (1) manager-class engineer in electric power utilities with at least ten years working experience (2) between 32 and 50 years of age
- 4. TRAINING INSTITUTIONS** (1) Nagoya International Training Centre (NITC), JICA (2) Agency of Natural Resources and Energy, Ministry of International Trade and Industry (3) Japan Electric Power Information Center, Inc. (4) Chubu Electric Power Company, Inc.

**ELECTRIC POWER DISTRIBUTION SYSTEM  
MANAGEMENT**

Aug. 30, '94 - Nov. 11, '94, 7 participants

配電システム管理

J-94-00512

- 1. PURPOSE** The purpose of the course is to impart information on administrative and technical aspects of Japan's electric power distribution engineering system so that participants will be able to utilize the knowledge obtained from the course for the future development of this field in their countries. Note: This course deals with distribution systems from secondary sides of distribution substations to service wires and does not cover transmission lines or interior wiring. The voltage of distribution lines is approximately from 6 KV to 22 KV in Japan.
- 2. MAIN FEATURES OF CURRICULUM** This course consists of lectures and visits. The main themes are: (1) outline of electric power industry in Japan (2) management techniques (total quality control, education system, safety measures, etc.) (3) power demand and supply schemes (4) transmission of electrical energy (5) distribution of electrical energy (automatic distribution system, etc.) (6) visits (power stations, factories which produce power distribution apparatus, etc.)
- 3. QUALIFICATION OF APPLICANT** (1) electrical power engineer presently employed at governmental or private electric power utilities in the field of electric power distribution (2) between 30 and 40 years of age (3) technical university graduate or equivalent, and have more than five years of practical experience
- 4. TRAINING INSTITUTIONS** (1) Osaka International Centre (OSIC), JICA (2) Agency of Natural Resources and Energy (3) Japan Electric Power Information Center, Inc. (JEPIC) (4) Kansai Electric Power Co., Inc. (KEPCO)
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for one week.

## COAL SCIENCE AND TECHNOLOGY

Sep. 26, '94 - Dec. 7, '94, 5 participants

石炭資源開発・利用

J-94-00312

- 1. PURPOSE** The purpose of the training course is to provide participants with advanced knowledge and experience of coal exploration, exploitation, utilization and environmental engineering
- 2. MAIN FEATURES OF CURRICULUM** The course is divided into two sections-introductory and advanced. In the first section, participants are to study the following basic topics. (1) coal geology (2) mining (3) chemistry (4) mechanical engineering for coal utilization (5) environmental engineering. Five series of lectures on advanced topics relevant to the modern coal industry in the mentioned fields will be provided in the second section. Each participant can take one or more series of lectures. Related experimental study is also scheduled. Participants are advised to bring their own problems to study in the laboratories at Kyushu University under the supervision of instructors.
- 3. QUALIFICATION OF APPLICANT** (1) have more than three years' occupational experience in the field of coal science and technology (2) university graduate or equivalent (3) 45 years of age or less
- 4. TRAINING INSTITUTIONS** (1) Kyushu International Centre (KIC), JICA (2) Kyushu University

## COAL MINING AND PREPARATION

May 10, '94 - July 17, '94, 5 participants

採炭・選炭技術

J-94-00353

- 1. PURPOSE** The course aims at contributing itself to the technical up-grading of the participating countries, in terms of the coal mining and preparation technology as follows: (1) Productivity and Stable Supply (2) Mine Safety (3) Environmental Protection and Preservation (4) Effective Utilization of Available Resources
- 2. MAIN FEATURES OF CURRICULUM** The course will consist of the following major subjects: (1) lectures (a) coal mining history of Japan and recent technology (b) coal mining industry policy and governmental administration in Japan (c) general and practical technology of coal mining, roadway drivage, coal preparation, central monitoring system, long wall mining, and environmental protection for coal mining (2) observation tours (a) under-ground collieries (b) open-cut mining site (c) manufacturers of related equipment (e.g. fan, pump, cooler, excavator, drum cutter)
- 3. QUALIFICATION OF APPLICANT** (1) university / college graduate who have basic knowledge of coal mining or equivalent (2) mining engineer, preparation engineer or other engineer concerned with coal mining industry who are presently employed at one of the government institutions or private companies in the field of coal mining (3) have more than five years of practical experience (4) between 35 and 45 years of age
- 4. TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Japan Technical Cooperation Center for Coal Resources Development (JATEC)

## NUCLEAR TECHNOLOGY

May 10, '94 - July 20, '94, 8 participants

原子力基礎実験

J-94-00303

- 1. PURPOSE** The purpose of the course is to provide scientists and engineers who are engaged in the application of radioisotopes and the operation of nuclear reactors with both fundamental and practical knowledge of nuclear technology for reconfirmation. As technology transfer, this course also aims to instruct them in essential techniques for safe handling of radioisotopes and safe operation and utilization of nuclear reactors.
- 2. MAIN FEATURES OF CURRICULUM** This course mainly consists of common subjects for all participants, group exercises for two sub-groups, and individual practice in accordance with each participant's speciality. The major common subjects (lectures and laboratory exercises) are; (1) basic concepts and experiments (2) radiological protection (3) radiation monitoring (4) radiation and radioisotope application. Participants will be divided into two sub-groups to cover one of the following subjects of laboratory exercises: (A) thermoluminescent dosimeters, neutron measurement and radiography (B) reactor engineering (control rod calibration, reactor operation)
- 3. QUALIFICATION OF APPLICANT** (1) university/college graduate in science or technology, or equivalent (2) working or going to work in organization concerned with nuclear technology fields (3) under 40 years of age
- 4. TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Japan Atomic Energy Research Institute (JAERI)

## SEMINAR ON NUCLEAR SAFETY AND REGULATION

Oct. 16, '94 - Nov. 13, '94, 7 participants

原子力安全規制行政セミナー

J-94-00354

- 1. PURPOSE** The purpose of the seminar is to see that lectures and study tours to radiation-using workshops and reactor facilities enable participants to comprehend the Japanese setup of nuclear safety and regulations in general, as well as the work-site system for the safety control of radiation, and that opinions and information are exchanged between countries on matters concerning their immediate problems.
- 2. MAIN FEATURES OF CURRICULUM** In this seminar, the emphasis is put on introduction of Japanese systems by means of lectures and observation trips to various related organizations/facilities. The main themes to be covered in the seminar are; (1) regulations and administration for safety assurance and control in Japan (2) safety control at facilities using radioisotope and reactor.
- 3. QUALIFICATION OF APPLICANT** be senior officer (section head or equivalent) in charge of national nuclear safety and regulation and have at least five years' experiences in the job
- 4. TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Nuclear Safety Bureau, Science and Technology Agency (3) Japan Atomic Industrial Forum

## GEOHERMAL ENERGY (ADVANCED)

Aug. 15, '94 - Dec. 11, '94, 10 participants

地熱エネルギーアドバンス

J-94-00442

- PURPOSE** The purpose of the training course is to provide participants with effective training in the field of science and engineering to enable them to plan, execute and evaluate geothermal development projects for the maximum utilization of the available energy resources, considering environmental conditions.
- MAIN FEATURES OF CURRICULUM** Participants are divided into five groups: geologists, geophysicists, geochemists, drilling engineers and production engineers. All the participants will acquire advanced and comprehensive knowledge of the whole process of development of geothermal energy. Participants are expected to perform the following respective activities according to their specialized fields. (1) geologists: field reconnaissance, emphasized on geologic control of thermal manifestations (2) geophysicists: structural interpretation of the area, definition of the area extent and depth of the reservoir (3) geochemists: construction of a model of the geothermal system under exploration, comprehension of the systematic knowledge of geochemical prospecting methods in different thermal manifestations (4) drilling engineer: command of all the necessary techniques for rational drilling of geothermal wells such as cementing, stimulating and completing high temperature wells (5) production engineer: design and administration of production; distribution of production and reduction wells, control of production and all other related items
- QUALIFICATION OF APPLICANT** (1) either be an ex-participant of JICA Group Training Course in Geothermal Energy at Kyushu University, or have been engaged in the field of geothermal energy development for at least three years (2) leading staff member in their organizations (3) university graduate or equivalent (4) over 25 and under 45 years of age
- TRAINING INSTITUTIONS** (1) Kyushu International Centre (KIC), JICA (2) Geothermal Research Centre, Faculty of Engineering, Kyushu University (3) Hatchobaru Geothermal Power Station

## MEASURES FOR SMALLER INDUSTRIES II

Jan. 9, '95 - Mar. 19, '95, 10 participants

中小企業対策II

J-94-00108

- PURPOSE** The purpose of the course is to give the participants some hints and enable them to devise better measures for the promotion of small businesses in their countries, by introducing the history and the status quo of Japan's small businesses and the measures for their promotion.
- MAIN FEATURES OF CURRICULUM** This course consists of common subjects for all participants and small group training. The main themes are: (1) background of the Japanese economy (2) history and status quo of public policy towards small business-finance, management, technology, subcontracting system, grouping system, internationalization.
- QUALIFICATION OF APPLICANT** (1) university / college graduate, or equivalent (2) under 40 years of age, and occupational experience of more than five years in promotion of small business in governmental organization, financial institution, or cooperative association
- TRAINING INSTITUTIONS** (1) Osaka International Centre (OSIC), JICA (2) Japan International Cooperation Center
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for one week.

## RADIOLOGICAL PROTECTION FOR RADIATION SAFETY OFFICERS AT NUCLEAR FACILITIES

Jan. 30, '95 - Mar. 9, '95, 5 participants

放射線安全管理実務者

J-94-00482

- PURPOSE** This course is designed for young engineers who are working at facilities or organizations concerned with nuclear energy. The purpose of the programme is to introduce them to beneficial knowledge for safe radiation control derived from recent science and technology, to present ideas and techniques of radiation protection through lectures, laboratory exercises and facility observations, and to contribute to improving the radiation protection system in each participant's home country. It is also anticipated that participants will master the techniques of using radiation measuring equipment.
- MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on lecture and exercises in laboratory and field regarding radiation protection. The main themes are: (1) lectures (1 week) (a) orientation of lectures and exercises (b) observation of facilities (Exhibition Center at Oarai Engineering Center) (c) general lectures (i) introduction to radiation protection (ii) basic knowledge of radiation (iii) radiation measuring equipment (iii-1) explanation of radiation measuring equipment (iii-2) statistical counting errors (iii-3) technical introduction to energy spectrum analysis of alpha, beta and gamma radiation (iii-4) measurement of gamma radiation (iv) biological effects of radiation on man and dose limits for radiation protection (v) environmental monitoring (vi) external radiation monitoring for occupational workers (vii) individual monitoring and assessment of environmental radiation (viii) calibration and maintenance of radiation measuring instruments. (2) laboratory exercises (1 week) (a) radiation measurement practice using ion chamber, GM counter, NaS (Ag) counter (b) radiation measurement practice using GM counting system (3) field exercises (1 week) (a) maintenance and calibration of radiation monitoring instruments (b) individual monitoring for internal and external exposure (c) environmental radiation monitoring (4) observation tour (1 week) observation tours to relevant facilities for radiation protection as listed below are conducted at the final stage of the course. (a) experimental fast reactor "Joyo" at Oarai Engineering Center, PNC. (b) Japan Atomic Energy Research Institute (JAERI) in Tokai (c) Advanced Thermal Reactor "Fugen" at Tsuruga, PNC. (d) a fabrication plant of radiation measuring equipment
- QUALIFICATION OF APPLICANT** (1) university graduate with basic knowledge of nuclear energy and radiation protection (2) radiation safety engineer who is working at facilities or organization concerned with nuclear energy except medical facilities for one to five years (3) over 23 and under to 35 years of age
- TRAINING INSTITUTIONS** (1) Tsukuba International Centre (TBIC), JICA (2) Power Reactor and Nuclear Fuel Development Corporation (PNC) (3) Tokai Works of PNC (4) Oarai Engineering Center of PNC

## CONSULTANCY SERVICE FOR SMALL INDUSTRIES

Oct. 24, '94 - Mar. 3, '95, 10 participants

中小企業診断

J-94-00466

- PURPOSE** The purpose of this course is to provide personnel who extend their services to small-scale industries for promoting business efficiency, productivity and profitability with necessary knowledge and techniques to further develop and promote small-scale industries in developing countries.
- MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on lectures dealing mainly with: (1) system and measures for small industries in Japan (2) basic understanding of business management (3) techniques of business diagnosis. At the end of the program, participants will have one week of practical training. They will be divided into two groups to conduct business diagnosis.
- QUALIFICATION OF APPLICANT** (1) assigned to business diagnostic services, management consultancy, and extension services at an organization dealing with development and promotion of small scale industries (2) university graduate or equivalent in this field. In addition, THE BASIC KNOWLEDGE TO PREPARE FINANCIAL STATEMENTS OF A BUSINESS CORPORATION IS PREREQUISITE CONDITION FOR PARTICIPATION IN THIS TRAINING COURSE (3) have at least three years experiences of such activities as mentioned above, having already undergone the basic training on business management (4) between 30 and 45 years of age
- TRAINING INSTITUTIONS** (1) Nagoya International Training Centre (NITC), JICA (2) Aichi Industrial Research Association (3) Small and Medium Enterprise Management Consultants Association of Japan (4) Aichi Small-and-Medium-Sized Enterprise Assistance Center (5) Aichi Institute of Technology (6) other related organizations
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (50 hours).

**PRODUCTION MANAGEMENT (THEORY AND PRACTICE ON WORK IMPROVEMENT)**

Oct. 17, '94 - Mar. 4, '95, 8 participants

生産性向上技術

J-94-00340

- 1. PURPOSE** The purpose of the training course is to provide participants with the opportunities to (1) understand technology and techniques accumulated in the Kitakyushu area through its experience and research activities, (2) acquire the knowledge on higher productivity through practical training and plant observations of Japanese factories, (3) introduce and utilize the acquired knowledge and techniques to solve their own problems of production.
- 2. MAIN FEATURES OF CURRICULUM** The subjects covered in the course are: (1) productivity and management techniques (2) typical organization of Japanese companies (3) factors affecting productivity (4) production management (5) value engineering (6) industrial engineering (7) work improvement (8) plant maintenance and total productive maintenance (9) single arrangement and "Poka-Yoke" (prevention of simple mistakes) (10) two-day improvement activity (11) quality control and statistical methods (12) QC circle activity (13) engineering economy (14) SE/OR (15) computer utilization in enterprise (16) CAD system (17) productivity improvement activity (18) basic production planning (19) employee education (20) QC New-7 Tools
- 3. QUALIFICATION OF APPLICANT** (1) have more than 5 years' occupational experience in the field of production management (2) university graduate in engineering or equivalent (3) 40 years of age or less
- 4. TRAINING INSTITUTIONS** (1) Kyushu International Centre (KIC), JICA (2) Kitakyushu International Techno-cooperative Association
- 5. REMARKS** A compulsory 25 hour Japanese language course will be conducted prior to the technical training.

**PRODUCTIVITY MANAGEMENT**

Apr. 11, '94 - June 12, '94, 10 participants

実践的総合生産性向上

J-94-00355

- 1. PURPOSE** The course is designed to update the administrative and managerial skills of personnel who are currently engaged in the administration or management of production, or related job or position.
- 2. MAIN FEATURES OF CURRICULUM** The highlight of the program is the in-plant-practice for productivity improvement. Main topics by lecture: Production control and system, Improvement of total productivity, Implementation of low cost automation, Basic design of training for human resource development. Main practice: Productivity improvement practice in plant
- 3. QUALIFICATION OF APPLICANT** (1) official presently in charge of plant management in manufacturing sector in central or provincial governments or in local bodies, with 5 or more years of experience in this field (2) university graduate or equivalent (3) over 30 and under 40 years of age
- 4. TRAINING INSTITUTIONS** (1) Hachioji International Training Centre (HITC), JICA (2) Japan Productivity Center (JPC)

**SEMINAR ON SHIPBUILDING MANAGEMENT**

Sep. 19, '94 - Nov. 24, '94, 7 participants

造船経営管理セミナー

J-94-00249

- 1. PURPOSE** The purpose of the seminar is to provide the participants with the opportunity to get workable, basic know-how of shipbuilding management, such as the outline of shipbuilding, the control of business activities, and production control in the shipyards, and to exchange information on how to cope with the development of the international conventions, thus contributing to the development of shipbuilding industries in the developing countries.
- 2. MAIN FEATURES OF CURRICULUM** In this seminar, the emphasis is put on introduction of Japanese shipbuilding industries and basic know-how of shipbuilding management through lectures and observation. Another feature of the seminar is the participation in International Symposium on Transportation of Dangerous Goods by Sea and Inland Waterways. The following are the major subjects to be covered in the seminar. (1) outline of shipbuilding industries and management in Japan (2) shipyard management and control of business activities (3) production control in shipyard management (4) applicability of IMO (International Maritime Organization) resolutions
- 3. QUALIFICATION OF APPLICANT** (1) presently engaged in the field of shipbuilding management in government, public, or private organizations and have more than eight years of occupational experience in this field (2) university graduate or equivalent (3) not less than 35 and not more than 50 years of age
- 4. TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Maritime Technology and Safety Bureau, Ministry of Transport (3) Overseas Shipbuilding Cooperation Centre (OSCC)

**FOREIGN TRADE DEVELOPMENT FOR LEADERS**

Aug. 29, '94 - Dec. 3, '94, 10 participants

貿易促進のための指導者

J-94-00208

- 1. PURPOSE** The purpose of the course is to provide leading officers of developing countries presently in charge of foreign trade administration with practical knowledge of Japanese market through lectures and observations (field trips). It also provides the knowledge of Japanese historical experience in achieving economic development through trade promotion, as well as Japanese trade practice, thus assisting the participants to figure out effective measures for trade development to Japan.
- 2. MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on introduction of comprehensive knowledge on the following subjects, through lecturer and field trip. (1) theoretical analysis of economic development and trade (2) historical analysis or Japanese experience of economic development (3) role of small and medium scale trading companies (4) multilateral analysis of Japanese market (5) business practice of trade transaction (a) Japanese distribution system (b) consumer behavior (6) trade promotion to Japanese market (7) case study on trade business (a) field trip
- 3. QUALIFICATION OF APPLICANT** (1) university graduate or equivalent with occupational experience of more than three years (2) leading officer in administration of foreign trade (3) no less than 26, and not more than 40 years of age
- 4. TRAINING INSTITUTIONS** (1) Hyogo International Centre (HIC), JICA (2) Kobe International Association (3) Kobe Chamber of Commerce and Industries (4) Kobe University (5) Kobe Customs House, Ministry of Finance
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for a half month (50 hours).

**INTELLECTUAL PROPERTY RIGHTS IN TECHNOLOGY TRANSFERS**

May 9, '94 - Aug. 6, '94, 10 participants

国際知的財産権

J-94-00486

- PURPOSE** This course is intended for specialists who are in a leading post to prepare and promote policies and measures for technology transfer and for the protection of intellectual properties, in developing countries. The participants of this course will undergo the training of highly specialized contents such as legal practices regarding technology transfer and legislation regarding intellectual properties in Japan. It is hoped that this training will be of help not only for fostering specialists in technology trade but also for developing and promoting legal systems for the protection of intellectual properties.
- MAIN FEATURES OF CURRICULUM** This course consists of subjects which introduce Japanese cases, tutorial studies and discussions including final Symposium. (1) outline of Japanese law (2) intellectual property right system in Japan (3) legal practices concerning technology transfer (4) various systems regarding technology trade (5) tutorial instruction (6) case study (7) symposium on intellectual property rights (a) Participants are requested to report on the hot issue regarding the trend of intellectual property rights in their countries
- QUALIFICATION OF APPLICANT** (1) senior administrators in charge of legislation of intellectual property rights or in charge of policy making, or in the position of making technical suggestion in their fields with practical experience of at least 3 years in this field. (2) under 45 years of age
- TRAINING INSTITUTIONS** (1) Osaka International Centre (OSIC), JICA (2) Kyoto Comparative Law Center
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for one week (25 hours).

**SEMINAR ON COMPREHENSIVE TOURISM II**

Oct. 11, '94 - Dec. 4, '94, 18 participants

総合観光セミナーII

J-94-00070

- PURPOSE** The purpose of this seminar is to provide a more comprehensive understanding of tourism by sharing the Japanese experience concerning tourism development and promotion with participating countries, and thus contribute to investigating a more sound development of tourism in participating countries.
- MAIN FEATURES OF CURRICULUM** In this seminar, the emphasis is put on introduction of Japanese experience in various aspects of tourism promotion including preservation of tourism resources. The following major subjects will be covered in the seminar. (1) tourism policy and administration in Japan (2) tourism industries and international tourism promotion in Japan (3) current situation and problems of international tourism promotion in participating countries (4) preservation of natural and cultural tourism resources and tourism promotion
- QUALIFICATION OF APPLICANT** (1) university graduate or equivalent (2) presently engaged in tourism promotion activities in the governmental or other public tourism organizations with the occupational experience of more than three years (3) between 25 and 35 years of age
- TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Department of Tourism, Transport Policy Bureau, Ministry of Transport (3) International Tourism Development Institute of Japan (ITDIJ)

**INTENSIVE JAPANESE LANGUAGE (A)**

Oct. 27, '94 - May 15, '95, 7 participants

日本語専修(A)

J-94-00421

- PURPOSE** The purpose of this course is to provide Japanese language training for those who are directly or indirectly related to technical cooperation project of JICA, so that they will (1) facilitate better communication with JICA experts in Japanese (2) promote smoother and more effective implementation of JICA cooperation projects (3) understand Japanese people, society and culture
- MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on lectures, practice and field trips. The main themes are: (1) writing practice of Hiragana, Katakana, and Kanji (Chinese Character) (2) pronunciation (3) basic sentence structure (4) conversation (5) reading and composition skills
- QUALIFICATION OF APPLICANT** (1) presently engaged directly or indirectly in JICA's cooperation programmes (2) university graduate or equivalent (3) under 30 years of age
- TRAINING INSTITUTIONS** Okinawa International Centre (OIC), JICA

**INTENSIVE JAPANESE LANGUAGE (B)**

Oct. 27, '94 - May 15, '95, 7 participants

日本語専修(B)

J-94-00422

- PURPOSE** The purpose of this course is to provide Japanese language training for those who are directly or indirectly related to technical cooperation project of JICA, so that they will (1) facilitate better communication with JICA experts in Japanese (2) promote smoother and more effective implementation of JICA cooperation projects (3) understand Japanese people, society and culture
- MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on lectures, practice and field trips. The main themes are: (1) writing practice of Hiragana, Katakana, and Kanji (Chinese Character) (2) pronunciation (3) basic sentence structure (4) conversation (5) reading and composition skills
- QUALIFICATION OF APPLICANT** (1) presently engaged directly or indirectly in JICA's cooperation programmes (2) university graduate or equivalent (3) under 30 years of age
- TRAINING INSTITUTIONS** Okinawa International Centre (OIC), JICA



**PRODUCTION OF AUDIO VISUAL COMMUNICATIONS MEDIA (A)**

May 19, '94 - Sep. 9, '94, 9 participants

視聴覚メディア制作(A)

J-94-00437

- 1. PURPOSE** The purpose of this course are (1) to introduce basic theory and technique of audiovisual technology in human communication to the participants who are working in area of production and utilization of the audiovisual media (2) to enhance the effective application of audiovisual media in human communication by the participants' organizations
- 2. MAIN FEATURES OF CURRICULUM** The emphasis of this course is put on the basic production skills of audiovisual media. Main subjects covered in the course are: (1) basic theories in audiovisual communications media (2) basic video (3) desk top publishing (4) slide (5) other presentation media (6) final production
- 3. QUALIFICATION OF APPLICANT** (1) Must be a person who plays a role in planning, production and utilization of audiovisual media with two to four years of experience. (2) university graduate or equivalent (3) under 35 years of age
- 4. TRAINING INSTITUTIONS** Okinawa International Centre (OIC), JICA

**VIDEO PRODUCTION (FOR INSTRUCTIONAL, TRAINING AND PROMOTIONAL ACTIVITIES)**

Aug. 25, '94 - Dec. 22, '94, 9 participants

ビデオ制作

J-94-00473

- 1. PURPOSE** The course is designed to help participants acquire fundamental knowledge and skills of production and utilization of video media for educational training and its diffusion in developing countries.
- 2. MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on the video program production. The main themes are: (1) basic theory of audiovisual communication (2) case study of utilization of video media (3) technique of video materials and production (4) exercises (5) observation
- 3. QUALIFICATION OF APPLICANT** (1) has been engaged in planning, production and utilization of video media in public institution (2) has 2 to 5 years experience (3) under 35 years of age (4) university graduate or equivalent
- 4. TRAINING INSTITUTIONS** Okinawa International Centre (OIC), JICA

**PRODUCTION OF AUDIO VISUAL COMMUNICATIONS MEDIA (B)**

Jan. 12, '95 - May 5, '95, 7 participants

視聴覚メディア制作(B)

J-94-00491

- 1. PURPOSE** The purposes of this course are (1) to introduce basic theory and technique of audiovisual technology in human communication to the participants who are working in area of production and utilization of the audiovisual media (2) to enhance the effective application of audiovisual media in human communication by the participants' organizations
- 2. MAIN FEATURES OF CURRICULUM** The emphasis of this course is put on the basic production skills of audiovisual media. Main subjects covered in the course are: (1) basic theories in audiovisual communications media (2) basic video (3) desk top publishing (4) slide (5) other presentation media (6) final production
- 3. QUALIFICATION OF APPLICANT** (1) must be a person who plays a role in planning, production and utilization of audiovisual media with two to four years of experience (2) university graduate or equivalent (3) not more than 40 years of age
- 4. TRAINING INSTITUTIONS** Okinawa International Centre (OIC), JICA

**PRACTICE OF SCIENCE EDUCATION**

Sep. 19, '94 - Nov. 7, '94, 6 participants

科学教育実技

J-94-00460

- 1. PURPOSE** The course is designed to enable the participants, who teach science in junior high and high schools or who belong to education research institutes (university) and science education centers to understand the essentials of the latest technology for teaching science. After completion of this course, participants will be able to use the simple science equipment according to the basic principles of science education and formulate suitable test questions for science activities.
- 2. MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on report presentation, lectures which introduce Japanese experience and basic theories of science education, and workshop practice of science education. It mainly covers: (1) basic principles of science (2) practice concerning physics, chemistry, biology, earth science and educational technology
- 3. QUALIFICATION OF APPLICANT** (1) be presently engaged in teaching science at a secondary school or investigating the same at an institute/university/college. Be in a promising position in science education. Administrative officers are not qualified for this programme. (2) university graduates or equivalent (3) be not more than 35 years of age.
- 4. TRAINING INSTITUTIONS** (1) Chugoku Branch Office, JICA (2) Faculty of School Education, Hiroshima University (3) Faculty of Education, Hiroshima University (4) Education Center, Hiroshima Prefecture (5) Education Center, Hiroshima City

**SEMINAR FOR TRAINING SPECIALIST FOR SUPERVISORS II**

May 23, '94 - July 17, '94, 10 participants

監督者訓練専門家セミナーII

J-94-00016

- PURPOSE** The seminar is designed to contribute to the development of the ability of key personnel of in-house training engaged in planning and conducting the training for supervisors, foremen and workers of manufacturing industries in participating countries, by introducing to the participants, Japanese system of the training for supervisors and by providing them with necessary knowledge and information concerned.
- MAIN FEATURES OF CURRICULUM** In this seminar, the necessary emphasis is placed upon the practical knowledge of the training for supervisors, Japanese in-plant training system, the training methods of the in-plant training corresponding to the technological innovations, and the ability to pick up the idea to develop the training for supervisors, suited to the training need of the participating countries through lectures and discussions on the outline of human resources development in Japan and the training for supervisors in Japan, and through the observation tours of the related facilities and organizations.
- QUALIFICATION OF APPLICANT** (1) university graduate or equivalent (2) training specialist concerned with planning and conducting the in-house training designed for foremen and other first line supervisors, etc. (3) more than one year's working experience in the said position with the expectation to work in the same position in the future (4) between 30 and 45 years of age
- TRAINING INSTITUTIONS** (1) Hachioji International Training Centre (HITC), JICA (2) Human Resources Development Bureau, Ministry of Labour

**SEMINAR ON HUMAN RESOURCES DEVELOPMENT ADMINISTRATION**

Nov. 7, '94 - Dec. 11, '94, 15 participants

職業能力開発行政セミナー

J-94-00346

- PURPOSE** The purpose of the seminar is to introduce to the participants the current situation of human resources development administration in Japan specifically placing emphasis on vocational training, and to provide them an opportunity of making a comparative study on the said field between Japan and the participating countries as well as among their countries, and thereby to contribute to the improvement of the human resources development administration in the respective countries.
- MAIN FEATURES OF CURRICULUM** To achieve the above purpose, the following major subjects have been carefully selected, so that the participants will acquire the understanding necessary to apply and/or to make recommendations for the improvement of human resources administration in their countries. (1) the economic, social and historical background and the present situation concerning the human resources development administration in Japan (2) establishment of training policy and strategy for human resources development administration in Japan (3) general methods of management and operation of various types of vocational training institutions in Japan (4) present situation of human resources development in enterprises (5) human resources development administration among the participating countries
- QUALIFICATION OF APPLICANT** (1) at least a director of the department in the central government who is presently engaged in the human resources development administration (2) between 35 and 50 years of age
- TRAINING INSTITUTIONS** (1) Hachioji International Training Centre (HITC), JICA (2) Human Resources Development Bureau, Ministry of Labour

**SEMINAR ON TRAINING MANAGEMENT IN VOCATIONAL TRAINING INSTITUTIONS**

Aug. 22, '94 - Oct. 16, '94, 10 participants

職業訓練管理セミナー

J-94-00345

- PURPOSE** The purpose of this seminar is to introduce to the participants the current situation of the human resources development administration, and the management of vocational training institutions in Japan, and to provide them with an opportunity for making a comparative study on management and programming of vocational training between Japan and their countries as well as among the participating countries, and thereby to contribute to the improvement of vocational training in each country.
- MAIN FEATURES OF CURRICULUM** To achieve the above purpose, the following major subjects have been carefully selected, so that the participants will acquire the understanding necessary to apply and/or to make recommendations for the improvement of vocational training institutions in their countries. (1) the economic, social and historical background and the present situation as well as the human resources development administration in Japan (2) the management of vocational training institutions and facilities, such as human management, operation management and physical management (3) programming of vocational training, such as training needs and development of training courses (4) the management of vocational training institutions and facilities in the participating countries
- QUALIFICATION OF APPLICANT** (1) headship being presently engaged in management of a vocational training institution, with the expectation to continue to work in the same field (2) between 30 and 50 years of age
- TRAINING INSTITUTIONS** (1) Hachioji International Training Centre (HITC), JICA (2) Human Resources Development Bureau, Ministry of Labour

**HIGH TECHNOLOGY RESEARCH**

July 25, '94 - Feb. 19, '95, 5 participants

ハイテク・リサーチ

J-94-00313

- A: DYNAMIC BEHAVIOR ON LARGE SCALED FLOATING OFFSHORE STRUCTURE SUBJECTED TO SEA WAVES AND SEAQUAKES**  
**B: PRODUCT DESIGN**
- PURPOSE** The purpose of this course is to provide participants with an opportunity for studying the advanced technology of the specialized subjects in the modality of Japanese research work, so as to contribute to the improvement of their proficiency.
  - MAIN FEATURES OF CURRICULUM** This course basically consists of individual studies with professors' advice on respective fields. It is expected to enhance the learning environment and opportunities.
  - QUALIFICATION OF APPLICANT** (1) presently engaged in [A] civil engineering, mechanical engineering, or ocean engineering [B] product design at university, research institute or vocational training college (2) graduate from faculty of engineering at university or graduate school (3) have occupational experience in this field for at least five years for bachelor degree holder, three years for master degree holders (4) not more than 35 years of age (5) have appropriate knowledge on [A] precision engineering [B] mechanical engineering (6) have specific knowledge on the theme mentioned and be able to study of his own accord
  - TRAINING INSTITUTIONS** (1) Hachioji International Training Centre (HITC), JICA (2) Polytechnic University, Employment Promotion Corporation
  - REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for four weeks (100 hours).

**VOCATIONAL TRAINING INSTRUCTORS  
(INFORMATION AND COMPUTER ENGINEERING)**

June 6, '94 - Mar. 19, '95, 10 participants

職業訓練指導員(情報工学)

J-94-00504

- 1. PURPOSE** The purpose of this course is placed at providing participants engaged in vocational/technical profession with requisite technology and information available in Japan in the form of group training, so that they could share the outcomes of the training to the enhancement of technical standard and productivity in their respective countries.
- 2. MAIN FEATURES OF CURRICULUM** This course is conducted in combination of lecture and practice and mainly covers: (1) basics of software (2) basics of hardware (3) software design (4) information processing engineering (5) logical circuit
- 3. QUALIFICATION OF APPLICANT** (1) presently engaged in teaching information and computer engineering or related field at such facilities as vocational training center, college, university, or research institute (2) university graduate with at least three years of occupational experience in this field (3) not less than 25 and not more than 35 years of age (4) not be serving in the military
- 4. TRAINING INSTITUTIONS** (1) Hachioji International Training Centre (HITC), JICA (2) Polytechnic University, Employment Promotion Corporation
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for five weeks (125 hours).

**VOCATIONAL TRAINING INSTRUCTORS  
(ARCHITECTURAL ENGINEERING)**

June 6, '94 - Mar. 19, '95, 5 participants

職業訓練指導員(建築工学)

J-94-00377

- 1. PURPOSE** The purpose of this course is placed at providing participants engaged in vocational/technical profession with requisite technology and information available in Japan in the form of group training, so that they could share the outcomes of the training to the enhancement of technical standard and productivity in their respective countries.
- 2. MAIN FEATURES OF CURRICULUM** This course is conducted in combination of lecture and practice and mainly covers: (1) production system of construction (2) spatial structures (3) building materials (4) seismic engineering (5) pre-fabricated construction system
- 3. QUALIFICATION OF APPLICANT** (1) presently engaged in teaching architectural engineering or related field at such facilities as vocational training center, college, university, or research institute (2) university graduate with at least three years of occupational experience in this field (3) not less than 25 and not more than 35 years of age
- 4. TRAINING INSTITUTIONS** (1) Hachioji International Training Centre (HITC), JICA (2) Polytechnic University, Employment Promotion Corporation
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for five weeks (125 hours).

**VOCATIONAL TRAINING INSTRUCTORS  
(ELECTRONIC ENGINEERS) II**

June 6, '94 - Mar. 19, '95, 11 participants

職業訓練指導員(電子工学) II

J-94-00378

- 1. PURPOSE** The purpose of this course is placed at providing participants engaged in vocational/technical profession with requisite technology and information available in Japan in the form of group training, so that they could share the outcomes of the training to the enhancement of technical standard and productivity in their respective countries.
- 2. MAIN FEATURES OF CURRICULUM** This course is conducted in combination of lecture and practice and mainly covers: (1) analogue and digital electronic circuits (2) power electronic engineering (3) automatic control (4) optical electronic (5) electro magnetic wave propagation (6) physics of semi-conductor devices
- 3. QUALIFICATION OF APPLICANT** (1) presently engaged in teaching electronic engineering or related field at such facilities as vocational training center, college, university, or research institute training center as professor or teacher (2) university graduate with at least three years of occupational experience in this field (3) not less than 25 and not more than 40 years of age
- 4. TRAINING INSTITUTIONS** (1) Hachioji International Training Centre (HITC), JICA (2) Polytechnic University, Employment Promotion Corporation
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for five weeks (125 hours).

**VOCATIONAL TRAINING INSTRUCTORS  
(MECHANICAL ENGINEERING FOR INDUSTRY)**

June 6, '94 - Mar. 19, '95, 7 participants

職業訓練指導員(産業機械工学)

J-94-00434

- 1. PURPOSE** The purpose of this course is placed at providing participants engaged in vocational/technical profession with requisite technology and information available in Japan in the form of group training, so that they could share the outcomes of the training to the enhancement of technical standard and productivity in their respective countries.
- 2. MAIN FEATURES OF CURRICULUM** This course is conducted in combination of lecture and practice and mainly covers: (1) basic concepts of material for engineering (2) selection, operation and maintenance of pumps (3) automotive mechanism (4) hydraulics (5) stress measurement (6) internal combustion engines
- 3. QUALIFICATION OF APPLICANT** (1) presently engaged in teaching mechanical engineering for industry or related field at such facilities as vocational training center, college, university, or research institute (2) university graduate with at least three years of occupational experience in this field (3) not less than 25 and not more than 40 years of age
- 4. TRAINING INSTITUTIONS** (1) Hachioji International Training Centre (HITC), JICA (2) Polytechnic University, Employment Promotion Corporation
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for five weeks (125 hours).

**VOCATIONAL TRAINING INSTRUCTORS  
(MECHANICAL ENGINEERING FOR PRODUCTION)**

June 6, '94 - Mar. 19, '95, 8 participants

職業訓練指導員(生産機械工学)

J-94-00435

- 1. PURPOSE** The purpose of this course is placed at providing participants engaged in vocational/technical profession with requisite technology and information available in Japan in the form of group training, so that they could share the outcomes of the training to the enhancement of technical standard and productivity in their respective countries.
- 2. MAIN FEATURES OF CURRICULUM** This course is conducted in combination of lecture and practice and mainly covers: (1) machining technology (2) precision measurement (3) deformation on processing (4) numerical control equipment (5) material testing
- 3. QUALIFICATION OF APPLICANT** (1) presently engaged in teaching mechanical engineering for production or related field at such facilities as vocational training center, college, university, or research institute (2) university graduate with at least three years of occupational experience in this field (3) not less than 25 and not more than 35 years of age
- 4. TRAINING INSTITUTIONS** (1) Hachioji International Training Centre (HITC), JICA (2) Polytechnic University, Employment Promotion Corporation
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for five weeks (125 hours).

**VOCATIONAL TRAINING INSTRUCTORS  
(PRODUCTS DESIGN AND WOOD WORK ENGINEERING)**

June 6, '94 - Mar. 19, '95, 5 participants

職業訓練指導員(造形工学)

J-94-00436

- 1. PURPOSE** The purpose of this course is placed at providing participants engaged in vocational/technical profession with requisite technology and information available in Japan in the form of group training, so that they could share the outcomes of the training to the enhancement of technical standard and productivity in their respective countries.
- 2. MAIN FEATURES OF CURRICULUM** This course is conducted in combination of lecture and practice and mainly covers: (1) properties of wood (2) woodworking system in production (3) new artificial materials (4) practice on CAD (5) digital image processing
- 3. QUALIFICATION OF APPLICANT** (1) presently engaged teaching in industrial design engineering or related field at such facilities as vocational training center, college, university, or research institute (2) university graduate with at least three years of occupational experience in this field (3) not less than 25 and not more than 40 years of age
- 4. TRAINING INSTITUTIONS** (1) Hachioji International Training Centre (HITC), JICA (2) Polytechnic University, Employment Promotion Corporation
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for five weeks (125 hours).

**REMOTE SENSING TECHNOLOGY  
(FUNDAMENTAL)**

May 10, '94 - July 14, '94, 8 participants

リモートセンシング技術(基礎)

J-94-00219

- 1. PURPOSE** The purpose of the course is to transfer fundamental knowledge and technology on satellite remote sensing, mainly focused on digital analysis, to the researchers and engineers from developing countries, through lectures, practices, field trips, and so on.
- 2. MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on workshop using computers. The following are the major subjects to be covered in the course. (1) basic theory (2) sensor satellite (3) image processing (4) application (5) ground truth (6) workshop: digital image analysis, geometric correction and GIS, personal computer processing, personal computer system and programming
- 3. QUALIFICATION OF APPLICANT** (1) university graduate, or equivalent with a fundamental knowledge of physics and mathematics (2) researcher or engineer in remote sensing application fields, such as country planning, agriculture, forest management and mapping (3) under 35 years of age
- 4. TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) Remote Sensing Technology Center of Japan

**ENZYMES TECHNOLOGY**

Apr. 11, '94 - Oct. 2, '94, 5 participants

酵素工学

J-94-00248

- 1. PURPOSE** The purpose of the course is to introduce to participants knowledge and techniques required for microbial enzyme technology such as cultivation of microorganisms, production & purification of enzymes and properties & action of enzymes, through lectures, experiments and observations. (Note that the course is focused on introducing basic knowledge and techniques of microbial enzyme technology proper, and is not intended to provide participants with knowledge and techniques of food processing resulting from application.)
- 2. MAIN FEATURES OF CURRICULUM** This course consists of common subjects for all participants and individual research work at laboratory. Each participants is to take one of the following subjects for his/her individual research: (1) microbial conversion of aromatic compounds (2) study on levan-degrading enzyme (3) synthesis of glycolipids by enzymic action (4) study on digestion of raw starch with amylase (5) study on the applied uses of micro-algae
- 3. QUALIFICATION OF APPLICANT** (1) master's degree, or bachelor's degree with as much academic knowledge and technical experience as the former, and major in biochemistry, fermentation Technology or applied microbiology (2) between 25 and 35 years of age (3) more than three years experience in fermentation technology or enzyme technology
- 4. TRAINING INSTITUTIONS** (1) Osaka International Centre (OSIC), JICA (2) Osaka Municipal Technical Research Institute (OMTRI)
- 5. REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks.

**RADIOTHERAPY (MEDICAL AND BIOLOGICAL APPLICATION OF RADIATION AND RADIOISOTOPES)**

Aug. 23, '94 - Sep. 30, '94, 10 participants

放射線治療(アイソトープ・放射線の医学・生物学利用) J-94-00262

- PURPOSE** The purpose of this course is to give the participants fundamental and practical knowledge about radiotherapy and to transfer the latest techniques available in Japan in the treatment of cancers to the participants through lectures, practice, discussion and study tours.
- MAIN FEATURES OF CURRICULUM** Each year, this course is conducted by taking up one of the four following subjects. (The subject is rotated every year in the listed order). (1) radiation health science (2) nuclear medicine (3) radiation biology (4) radiotherapy. The subject for this year (Japanese fiscal 1994) is "radiotherapy". (In Japanese fiscal 1995, "radiation health science" will be taken up.) The course mainly consists of lectures, practices, and observation tours. Special focus is put on the introduction of Japanese technology in radiotherapy. Participants are expected to do clinical study during the course.
- QUALIFICATION OF APPLICANT** (1) have occupational experience of several years in radiotherapy (2) be medical school graduates and be licensed physicians authorized by their governments (3) under 45 years of age, and have some experiences in radiation biology
- TRAINING INSTITUTIONS** (1) Tokyo International Centre (TIC), JICA (2) National Institute of Radiological Sciences (3) Nuclear Safety Research Association

**BIOTECHNOLOGY**

Mar. 20, '95 - Aug. 6, '95, 8 participants

バイオテクノロジー

J-94-00389

- PURPOSE** The purpose of the course is to provide graduates who majored in biotechnology and bioscience, mainly in the fields utilizing higher plants and microorganisms, in a university or the equivalents with fundamental and practical knowledge required for the effective application of biotechnology.
- MAIN FEATURES OF CURRICULUM** In this course, the emphasis is put on introduction of fundamental and practical knowledge on the following subjects through lecture, practice and study tours. (1) lecture general principles of biotechnology biotechnology utilizing microorganisms biotechnology utilizing plants etc. (2) laboratory works plant and cell engineering application of plant tissue culture techniques etc. (3) observation tours observation of institutes concerned with crop genes application of microbial activities etc.
- QUALIFICATION OF APPLICANT** (1) presently engaged in research work and have more than four years of occupational experience in this field (2) university graduate or equivalent (3) not less than 26 and not more than 35 years of age
- TRAINING INSTITUTIONS** (1) Hyogo International Centre (HIC), JICA (2) Faculty of Agriculture, Kobe University (3) Biotechnology Laboratory, Hyogo Prefectural Agricultural Institute
- REMARKS** A compulsory intensive Japanese language course will be conducted prior to the technical training for two weeks (45 hours).

**TUBERCULOSIS CONTROL II**

June 20, '94 - Oct. 23, '94, 18 participants

結核対策II

J-94-00030

- PURPOSE** The purpose of the course is to give training to key organizers of the national tuberculosis programme in the modern methods of tuberculosis control, in order to prepare them for developing or promoting the programme in a rational, realistic and efficient manner under their own country's socio-economic conditions.
- MAIN FEATURES OF CURRICULUM** Through the intensive lectures with discussions, practical training, seminars, workshops, field observations, etc. in this training course, it is so designed that the participants will acquire: (1) the abilities in formulating, implementing and evaluating a national tuberculosis programme based on the cost-benefit relationship (2) an epidemiological view of tuberculosis control (3) an understanding of the way to protect healthy people from tuberculosis (4) an understanding of how to cut the chain of transmission of tuberculosis
- QUALIFICATION OF APPLICANT** (1) a medical officer who is engaged in the national tuberculosis control programme, preferably having, or going to have, a leading role in the programme, excluding those who are engaged in pure clinical work (2) not more than 45 and not less than 30 years of age
- TRAINING INSTITUTIONS** (1) Hachioji International Training Centre (HITC), JICA (2) Research Institute of Tuberculosis, Japan Anti-Tuberculosis Association
- REMARKS** The participants will be required to take examinations for the qualification of Diploma of Tuberculosis Control and Epidemiology from the Research Institute of Tuberculosis when the training is completed. The participants should bring updated information on the health status and tuberculosis activities, manual of national tuberculosis control programme, recording form of tuberculosis patients, etc. of their countries.

**TUBERCULOSIS CONTROL FOR ADMINISTRATIVE MEDICAL OFFICERS**

May 9, '94 - June 26, '94, 10 participants

結核対策指導者

J-94-00197

- PURPOSE** The purpose of this course is to build up the ability of the participants to formulate a national tuberculosis programme, to set up strategy for implementation of the programme and to evaluate the programme through lectures, discussions and observation tours, and also by exchange of experiences and views with the participants from other countries, to contribute to the strengthening of the programmes of the countries concerned.
- MAIN FEATURES OF CURRICULUM** This course aims at building up the abilities to: (1) make a modification plan for the programme based on the deficiencies and shortcomings as identified by evaluation (2) evaluate the on-going national tuberculosis programme in their own country (3) assess the epidemiological status of tuberculosis and its time trend in their own country (4) incorporate new knowledge and technology of tuberculosis control into their own national programme
- QUALIFICATION OF APPLICANT** (1) a medical officer who is in charge of a tuberculosis control programme at a certain administrative level, most preferably an ex-participant of group training course in tuberculosis control with about five years field experience after the previous course (2) not more than 55 and not less than 35 years of age
- TRAINING INSTITUTIONS** (1) Hachioji International Training Centre (HITC), JICA (2) Research Institute of Tuberculosis, Japan Anti-Tuberculosis Association
- REMARKS** The participants will be required to take examinations for the qualification of Diploma of Tuberculosis Control and Epidemiology from the Research Institute of Tuberculosis when the training is completed. The participants should bring updated information on the health status and tuberculosis activities, manual of national tuberculosis control programme, recording form of tuberculosis patients, etc. of their countries.