KEMENTERIAN SAINS, TEKNOLOGI DAN INOVASI (MOSTI)

NUKLEAR MALAYSIA

ENVIRONMENTAL SAFETY & HEALTH

(ESH)

www.nuclearmalaysia.gov.my

Recognition

MOF
DOUBLE EDUCATION INCENTIVE

MOH

AELB
ATOMIC ENERGY LICENSING BOARD

HRDF
KERAJAAN 0023

DEPARTMENT OF SKILLS DEVELOPMENT

ACB QMS 04

MY06/0164

MY06/00734

ISO 9001:2015 since July 2018

Program Bersekutu/ *Associated Programme*

IPTN 5% Rebate

HRDF *Claimable*

CEP *Points*

Contents

Introduction of Environmental Safety & Health

Centre of Nuclear Excellence has been conducting training on Environmental Safety and Health (ESH) for the last 10 years. Centre of Nuclear Excellence (CoNE) address the technological changes that have introduced new hazards in the workplace, proliferation of safety and health legislation and corresponding regulation, and realization by executives that workers in a safe and healthy workplace are typically more productive. As each person entitled to safe and healthy condition at the workplace, an amount of efforts have been concentrated to develop the program that can meet the need of workers in Malaysia who face the occupational safety and health hazards daily. The programs offered have sufficient awareness, information and communication between professionals and community especially employers and workers.

Focusing on research and technology transfer, Nuclear Malaysia through Centre of Nuclear Excellence with other government agencies always looking for the best medium to share the knowledge and technology to educate and help the citizens. For the desirable development and increase in economy activities, many new program have been created to extensive technology that would result in increased productivity and enhanced economy.

Recognition:

HRDF Class A Approved Training Provider (Kerajaan0023) and an Approved Centre of SME Skill Advancement

An Approved Training Institution by Ministry of Finance for Double Deduction Incentive

MOF

A Recognised Centre of Excellence in Radiation Protection Activities by Atomic & Energy Licensing Board (AELB)

A Centre running CEP training for selected courses approved by Department of Occupational Safety and Health (DOSH)

Department of Occupational Safety & Health

CHEMICAL AND ENVIRONMENTAL SAFETY

ESH220

3 Days

Chemical Safety and Health

HRDF Claimable

CEP DOSH

Preamble

Chemical have become a part of our life, sustaining many of our activities. However one cannot ignore that these chemicals spills, especially if not properly used, endanger our health and poison our environment. About 100,000 chemical substances are used on a global scale. These chemicals abnormally found as mixtures in almost all commercial products. Proper storage, handling and disposal have to be devised to avoid the hazardous effect of the materials to human and their environment. Many of the chemicals do not give any warning by odor (or other types of sense) even though they may be present at dangerous concentration in work place. No chemical substances can cause adverse effects without first entering the body coming to contact with it. Individuals dealing with chemicals in their work place have to be properly trained and informed in order to minimize the risk.

Course Objectives

- To provide general understanding on the needs of chemical safety practical in organisation
- To understand the hazardous substance and the problems they pose at the workplace
- To recognise the chemical hazards and safety work practices in relation to the production and use of chemicals

Course Contents

- Legislative requirement on Occupational Safety and Health Act (OSHA)
- Basic information on hazardous chemicals
- Hazardous chemicals: Physical and Environment
- Hazardous chemicals: Health
- Cancer causing chemicals: (carcinogenic)
- System and route of exposure
- Expose limit value
- Technical measures to control hazards
- Hazard communication: Identification, classification and labelling
- Hazard communication: Material Safety Data Sheet (SDS)
- Term and phrases in SDS
- Chemical safety management
- Waste disposal
- Transportation and storage

Methodology

- Participative lectures
- Demonstration
- Group discussion

Who Should Attend

Safety & Health Officer (SHO), Manufacturer, Supplier, Supervisor, Chemist, Technologist, Technician, Laboratory Assistant and those who are involved in the process industries (chemical, oil, gas, petrochemical and energy)

Investment

PACKAGE		FEES PER PAX	
		Investment	Investment IPTN
Single	A	RM1,250.00	RM1,180.00
Team	B	RM1,180.00	RM1,120.00
SABAH / SARAWAK			
Single	A	RM1,340.00	RM1,270.00
Team	B	RM1,270.00	RM1,210.00

THIS COURSE CAN BE CONDUCT ONLINE

ESH221

2 Days | 3 Points CEP AELB

Laboratory Safety

HRDF Claimable

CEP DOSH

Preamble

The laboratory environment can be a hazardous place to work. Laboratory workers are exposed to numerous potential hazards including chemical, biological, physical and radioactive hazards, as well as musculoskeletal stresses. Laboratory workplace must be safe and conducive for all workers to work. Workers in chemical laboratories are exposed to lots of hazards. In some the hazards are well recognized. Where hazards are recognized, precautionary measures can be taken. Thus, all workers need to be aware of the issues that have an effect on their health and safety at the workplace. The course on Laboratory Safety is aimed to address issues on laboratory safety and protection in accordance to the applicable standard and requirements. This course also generate greater awareness on the importance of laboratory safety in order to promote safety culture in the workplaces. In this regard, the safety of personnel, public and the environment can be raised, to the standard of its best, and ultimately to increase products quality and productivity. This training program will contribute greatly to the safety culture at workplace leading to the improvement of safety performance in the organization.

Course Objectives

- To provide general understanding on the needs of the safety philosophy in laboratory safety practices and requirements for safe working environment.
- To creating awareness on the laboratory risks towards workers, public and environment.
- To learning the right procedures when handling materials for the cost effectiveness and benefits.

Course Contents

- Legislative requirement on Occupational Safety and Health Act (OSHA)
- Basic information on hazardous chemicals
- Hazardous chemicals: Physical and environment
- Hazardous chemicals: Health
- Hazard communication
- Term and phrase in SDS
- General conduct and housekeeping
- Safety equipment and working environment
- Safety management
- Safety communication
- Materials safety management
- Chemical safety and health management

THIS COURSE CAN BE CONDUCT ONLINE

Methodology

- Participative lectures
- Demonstration
- Group discussion

Who Should Attend

Safety & Health Officer (SHO), Manufacturer, Supplier, Supervisor, Chemist, Technologist, Technician, Laboratory Assistant and those who are involved with laboratory chemical and equipment.

Investment

PACKAGE		FEES PER PAX	
		Investment	Investment IPTN
Single	A	RM850.00	RM810.00
Team	B	RM810.00	RM760.00
SABAH / SARAWAK			
Single	A	RM940.00	RM900.00
Team	B	RM900.00	RM850.00

ESH222

3 Days | 6 Points CEP AELB

Environmental Monitoring: Sampling to Analysis

HRDF Claimable

CEP DOSH

Preamble

Nowadays, there are increasing concern on the radiation and environmental issues as a result of industrialization processes. As the concern of these issues, this course is designed to generate greater awareness on the importance of radiation and environmental safety to promote safety culture through good radiation and environmental protection practice at the workplace. In this regard, the safety of personnel, member of the public and the environment can be raised to the standard of the best and ultimately to increase the productivity. This training program will contribute greatly to the safety culture at workplace leading to the reliable safety performance.

Course Objectives

- To give better understanding of the philosophy and principles of radiation and chemical safety practices in organization
- To create awareness on biological effects and the risks of ionising radiation
- To acquire the techniques and proper procedures in controlling the radiation
- To introduce the advance methodology in analytical techniques, data evaluation and interpretation
- To generate the awareness on the importance of having quality assurance/quality control programme in chemical analysis

Course Contents

- Environmental Radioactivity Monitoring
- Radiological Monitoring Equipment & Methods (Personnel Monitoring)
- Radiological Monitoring Equipment & Method (Working Area Monitoring)
- Measurement of radioactivity in environment samples
- Migration or movement of radionuclides in natural environments
- Assessment of water quality
- Environmental Sampling - Soil, Water, Grass & Dust
- Measurement of Environmental Radioactivity

Who Should Attend

Radiation Protection Officer (RPO), Safety and Health Officer (SHO), Personnel and industries involved in environmental issue (Department of Agriculture), policy makers, enforcement bodies and authorities, regulator, manufacturers, suppliers, researcher, lab supervisor, lab assistant, lecturer, student and personnel who working with radiation and environment.

Investment

PACKAGE		FEES PER PAX	
		Investment	Investment IPTN
Single	A	RM1550.00	RM1470.00
Team	B	RM1470.00	RM1390.00

Methodology

- Participative lectures
- Demonstration
- Group discussion

THIS COURSE CAN BE CONDUCT ONLINE

ESH223

3 Days

Microbiological Testing for Pharmaceutical Products

HRDF Claimable

Preamble

All locally manufactured radiopharmaceutical products should comply with specific microbiological tests, including environmental monitoring of the manufacturing areas before the drugs can be administered to patients. Therefore, both radiopharmaceutical and pharmaceutical industries should understand the appropriate microbiological test techniques as recommended by British Pharmacopoeia (BP), US Pharmacopoeia (USP) and National Pharmaceutical Regulatory Agency (NPRA) regulations. This course module will benefit all pharmaceutical industries to accomplish Good Manufacturing Practice (GMP) for testing and training program.

Course Objectives

- To provide understanding on microbiological testing principles for radiopharmaceutical industries.
- To provide knowledge of practical and analysis for bio-burden, sterility and environmental test results.
- To give the right procedure on sampling according to GMP requirements.

Who Should Attend

Pharmaceutical industries, Medical product manufacturers, Medical Laboratory Technologist, Researchers, Students and Who are involved radio-pharmaceutical products.

Methodology

- Participative lectures
- Demonstration
- Group discussion

THIS COURSE CAN BE CONDUCT ONLINE

Course Contents

- Introduction to GMP
- Microbiological Testing
- Aseptic Techniques
- Media Preparation
- Environmental Monitoring
- Validation of Microbiological Test
- Sampling and Testing Procedures
- Sterility Test - Bioburden
- Room classification & environmental sampling area
- Report and interpretation of the test results

Investment

PACKAGE		FEES PER PAX	
		Investment	Investment IPTN
Single	A	RM1550.00	RM1470.00
Team	B	RM1470.00	RM1390.00

The Trainers

Norfaizal Mohamed @ Muhammad

Norfaizal Mohamed is a Senior Research Officer at Radiochemistry and Environment Group (RAS), Waste and Environmental Technology Division (BAS), Malaysian Nuclear Agency (Nuclear Malaysia). He joined Nuclear Malaysia in 2002 and has since then served Nuclear Malaysia until today. He was appointed as Laboratory Quality Manager for RAS Laboratory from 2005 until now. He has been involved in consultation work for private organization as Radiation Protection Consultants. He also been invited to give training on environmental-related topics and radiation safety for several programs inside and outside Nuclear Malaysia. His research interest is in environmental radioactivity in marine, coastal and terrestrial environment. He has also recently taken up research related to nuclear dating.

Yii Mei Wo

Yii Mei Wo currently hold a position as Senior Research Officer in Environmental Radiochemistry group in Nuclear Malaysia. He taught Radiation Safety, Chemical Safety & Health and Industrial Safety. Mr. Yii involved in many research such as Ambient Radioactivity and Radiological Studies in the Vicinity of Lynas Rare-Earth Plant, Gebeng Industrial Estate, Kuantan, Pahang. Mr Yii also produced a publication in national and international journal such as Dewan Bahasa dan Pustaka and Global Advanced Research Journal of Environmental Science and Toxicology.

Nooradilah Abdullah

Nooradilah Abdullah is a Research Officer at Radiochemistry and Environment Group (RAS), Waste and Environmental Technology Division. She is a graduate in Master of Science (Chemistry) from Universiti Teknologi Malaysia. Currently, she is working on few projects related to environmental radioactivity studies in marine, coastal and terrestrial environment and directly involves in the sampling, sample preparation and sample analysis of various anthropogenic and natural radionuclides. Nooradilah is the Deputy Quality Manager at RAS and responsible in services related to radioactivity screening of drinking water and environmental samples using low background gross alpha gross beta counting system. Her latest project is on development of nuclear dating laboratory at Malaysian Nuclear Agency which includes radiocarbon dating and thermoluminescence dating.

Jalan Sharib @ Sarip

Jalan Sharib @ Sarip currently hold a position as Senior Research Officer in Radiochemistry and Environment group in Nuclear Malaysia. He involved in IAEA project such as "IAEA/RAS/5/055 "improving Soil fertility, land productivity and Land Degradation Mitigation" and currently involved with Dana Khas project "establishing Identification and apportionment sediment sources in a river catchment". Expertise on catchment-scale FRN fingerprinting and inventory measurements, geochemical methods to quantify principal sources of sediment and sediment production and CSIA (Compound Stable Isotope Analysis) besides Radiochemistry.

AGROTECHNOLOGY & FOOD IRRADIATION

ESH121

1 Day | 3 Points CEP AELB

Monitoring and Analysis of Food Contamination

HRDF Claimable

Preamble

The key elements of programmes for monitoring food contamination are reviewed in relation to their purposes, scope and priorities. Attention is drawn to the requirements and quality assurance of procedures for sampling and analysis, and methods of handling and processing analytical surveillance data. The benefits to be derived from national monitoring programmes are improved food safety, warning of problems of contamination, provision of intake data for evaluation of health hazards, better management and use of natural resources, supply of data on environmental pollution and reliable information on food safety for the public, and provision of a means of checking the effectiveness of regulatory mechanisms and planning technological developments. This 1-day programme will provides essential information for food industry stakeholders in Malaysia.

Course Objectives

- To provide better understanding of food contamination
- To creating awareness on the contaminants
- To learning the right procedures to analysis food contamination
- To acquiring the information of right procedure to maintain the quality of food

Course Contents

- Introduction to food analysis
- Contamination chain
- Legislative requirement on food safety and international standards
- Basic information on hazardous chemicals and contaminant
- Sampling and sample preparation
- Analytical method for contaminants residue analysis
- Data observation, evaluation, analysis and interpretation
- Quality assurance and quality control

Methodology

- Participative lectures
- Demonstration
- Group discussion

Who Should Attend

Food Safety Operation/Project Management Personnel, Researchers, Chemist/Microbiologist, Food Technologist, Laboratory Assistants, Food Manufacturers and Suppliers, Food Related Service Providers

Investment

PACKAGE		FEES PER PAX	
		Investment	Investment IPTN
Single	A	RM580.00	RM550.00
Team	B	RM550.00	RM520.00

THIS COURSE CAN BE CONDUCT ONLINE

ESH122

1 Day

7 Points
CEP AELB

Herbs and Food Irradiation

HRDF Claimable

Preamble

Food irradiation is a technology using the application of ionizing radiation to food that improve the safety and extends the shelf life of foods by reducing or eliminating microorganisms and insects. It was first suggested in 1896 that Ionising Energy Treatment (IET) could be used to kill microorganisms in foods. In 1921, Schwartz obtained US patent on the use of X-rays to kill parasites Trichinella spiralis in meat, a worm that cause disease in human. In 1930, Wust obtained a French patent on the preservation of foods by irradiation. Since then, IET include fruits, vegetables, meat poultry, fish & seafood, roots & tubers, cereals, legumes, spices & dried vegetables seasonings. Irradiation also an important food safety tool in fighting foodborne illness. Irradiation, carried out under conditions of Good Manufacturing Practice, is commended as an effective, widely applicable food processing method judged to be safe on extensive available evidence that can reduce the risk of food poisoning, control food spoilage and extend the shelf-life of foods without detriment to health and with minimal effect on nutritional or sensory quality. This view has been endorsed by international bodies such as the World Health Organization, the Food and Agricultural Organization and Codex Alimentations.

Course Objectives

- To provide better understanding of food irradiation
- Creating awareness on the importance of food irradiation locally and internationally
- Understand the status, regulations and trends of irradiation food

Course Contents

- Implementation of food act and regulatory requirement for IET
- Standard for IET of foods and agricultural commodities
- International status and harmonisation of IET
- Certification of IET for sanitary and phytosanitary measures
- Regulation and standard of IET/industry expert
- QA/QC in IET: ISO and HACCP
- Current trend, direction and future of food preservation

THIS COURSE CAN BE CONDUCT ONLINE

Methodology

- Participative lectures
- Demonstration
- Group discussion

Who Should Attend

- Personnel and industries involved in food, herbs and agricultural products processing and manufacturing interested to explore new technology in food preservation
- Personnel responsible for regulation in public and private sectors

Investment

PACKAGE		FEES PER PAX	
		Investment	Investment IPTN
Single	A	RM580.00	RM550.00
Team	B	RM550.00	RM520.00

ESH224

2 Days

Management and Cultivation of New Mushrooms by Mutation Induction

HRDF Claimable

Preamble

To provide understanding for participants who have minimal knowledge and background in mushroom cultivation and mutation breeding especially for those who has interested in becoming mushroom growers with new edge of technologies and need to acquire information, knowledge sharing, experience and tips in managing accordingly mushroom industries. This course aims to inform individuals directly or indirectly in the mushroom industry on the use of radiation applications in producing a new breed of quality and commercialize mushrooms. Also available services at the Malaysian Nuclear Industry related to the irradiation activities of substrate sterilization for mushroom cultivation and also enhancing the storage period of mushroom-based dry products to further develop the mushroom industry in Malaysia.

Course Objectives

- To understanding the philosophy of mutation induction via ionizing radiation in creating variability mushrooms
- To enhance the capabilities, improve skills and knowledge in managing mushroom seedlings, controlling pest and diseases, mushroom cultivations, post-harvest activities and marketing.

Course Contents

- Introduction to Mushrooms
- Introduction to the Application of Inductive Mutations
- Production of Mushroom Seeds through Tissue Culture Techniques
- Implementation of Mushroom Production
- Mushroom Cultivation Processes & Methods
- Post-Harvest Handling of Mushroom Crops
- Mushroom Production and Marketing Management
- Practical Production of Mushroom Blocks
- Practical of Mushroom Seed Injection
- Practical on Production of Mushroom Blocks

Methodology

- Participative lectures
- Demonstration
- Group discussion

Who Should Attend

Growers, University students, lecturers, industrial operators, regulator, personnel from the operating organization in mushroom industries, regulatory body, academia, research institute.

Investment

PACKAGE		FEES PER PAX	
		Investment	Investment IPTN
Single	A	RM850.00	RM810.00
Team	B	RM810.00	RM760.00

THIS COURSE CAN BE CONDUCT ONLINE

ESH324

3 Days | 4 Points CEP AELB

Nuclear Technology for Food Security and Sustainable Agriculture

HRDF Claimable

Preamble

During the past half century, the world of agricultures has seen significant improvement due to the harnessing of radioisotopes. Radioisotopes are also used to change the genetic make-up of crops and produce strains which are superior in multiple aspects. By applying small doses of gamma or neutron irradiation, it is possible to induce mutations in crops and create varieties which are more disease resistant, tolerant to harsh climatic conditions, show increased yield and have shorter growing time. This practice has been in place for several decades and has led to the development of more than 1,800 crop varieties in the world. Mutation breeding has become the most successful field of application of nuclear techniques in food and agriculture: more and more mutant crop varieties, especially in rice have been released to farmers. In agriculture, radiation could help kill insect pests, develop more disease-resistant crops, improve the nutritional value of some crops or their baking or melting qualities or reduce their cooking time.

Course Objectives

- To understand the importance and benefit of nuclear technologies in agriculture
- To understand the procedure to apply the technique in research or business
- To learn the current technologies and new techniques in agriculture

Course Contents

- Development of Food & Agriculture Technologies using Nuclear Techniques in Malaysia
- Mutation Breeding of Rice, Oil, Seed Legumes and Fruit Trees
- Screening Stress Tolerant Crop Mutant/Lines
- Bio fertilizer and other products
- Basic Principles of Radiotracer/ Radioisotope Application in Agriculture
- Crop Water Management and Nuclear Techniques
- Radio sensitivity Test
- Molecular Techniques for Varietal Identification
- Use of Isotopes and Radiations in Soil Water Studies (Neutron Probe)
- Monitoring and Evaluation Techniques in Nuclear Agriculture Research
- Fallout Radionuclide in Soil Erosion Studies
- Radiation Health Hazards and Protection
- Impact Assessment of Nuclear Agriculture Research
- Food Irradiation and Preservation of Herbal Products
- Visit : Sinagama and Alurtron for Food Irradiation Process, Process Control

Methodology

- Participative lectures
- Demonstration
- Group discussion

Who Should Attend

- Personnel and industries involved in food, herbs and agricultural products processing and manufacturing interested to explore new technology in food preservation
- Personnel responsible for research in public and private sectors

Investment

PACKAGE		FEES PER PAX	
		Investment	Investment IPTN
Single	A	RM1550.00	RM1470.00
Team	B	RM1470.00	RM1390.00

THIS COURSE CAN BE CONDUCT ONLINE

ESH325

2 Days

Tissue Culture Technology and Irradiation Breeding

HRDF Claimable

Preamble

Tissue culture is a specialized skill that need to be mastered for various research and commercial applications such as mutation breeding, genetic transformation, commercial mass-propagation etc. The combined use of tissue culture and ionizing radiation is very efficient in generation mutation in plants. Therefore it is essential to provide tissue culture education to participants who have minimal knowledge and background in tissue culture and understand the concept and learn how to safely create new selective plants through a combination of tissue culture and ionizing radiation techniques

Course Objectives

- To understanding the concept of plant tissue culture and mutation techniques
- To enhance the capabilities, improve skills and knowledge in tissue culture and ionizing radiation for generating new plant varieties
- To learn the safety aspect, acquiring the techniques and proper procedures involving ionizing radiation

Course Contents

- Introduction to mutation from ionizing radiation
- Introduction to plant tissue culture
- Preparation of tissue culture medium
- Preparation of tissue culture samples for mutation
- Irradiation of tissue culture samples using gamma cell
- Data collection of morphological traits of irradiated plants
- Ionizing Radiation Properties, Health Hazards and Protection

Methodology

- Participative lectures
- Demonstration
- Group discussion

Who Should Attend

University students, lecturers, researchers, growers, hobbyists, industries involved in agricultural products, research institute, personnel responsible for research in public and private sectors.

Investment

PACKAGE		FEES PER PAX	
		Investment	Investment IPTN
Single	A	RM850.00	RM810.00
Team	B	RM810.00	RM760.00

THIS COURSE CAN BE CONDUCT ONLINE

ESH401

2 Days

Seminar on Food Safety

HRDF Claimable

Preamble

Cases of food safety related issues are increasing over the years with a serious impact on public health and industry. Growing population, urbanization & limited resources are some of the situation that creates problems with standards in food and food hygiene, adversely affecting quality and safety of food supplies. In today's complex trading environment, consumers are continuously introduced to new food, unfamiliar & sophisticated treatment of food or even unknowingly consume contaminated food.

Thus, the aim of the seminar is to address issues to further strengthen the food safety system and thereby supporting the food industry in its efforts to provide safe products of high quality. It will also highlight developments in research and innovations in food science and technology. Participants will get an up-to-date overview of the most current developments and focus areas within food safety locally and internationally. Participants will also learn Nuclear Technology visual for improving food safety in Malaysia.

Seminar Objectives

- To share the latest news and information on food safety, as well as offering ideas for general improvements in safety and food service industries.
- To offer knowledge about Halal related issues and technologies for Halal Authentication
- To further strengthen the food safety system and thereby supporting the food industry in its efforts to provide safe products of high quality.
- To highlight significant developments in food science and technology with an emphasis on food products innovation and processing.
- To keep abreast with the most current developments and focus areas within food safety locally and internationally.

Seminar Contents

- Quality & Safety
- Safety Issues Related to Food Environment
- Safety Management
- Safety Assessment and Authorization
- HACCP
- Halal Related Issues
- Innovations in Food Science and Technology
- Food Analysis & sterilization
- Processing/Packaging
- Supply Chain
- Development in Food Safety
- Education and Training

THIS COURSE CAN BE CONDUCT ONLINE

Methodology

- Participative lectures
- Demonstration
- Group discussion

Who Should Attend

- Policy Makers
- Enforcement Bodies/Authorities
- Food safety Operation/Project Management
- Food Industries Workers
- Hospitals and Clinic Workers
- Researchers
- Chemist/Microbiologist
- Food Technologist
- Laboratory Assistants
- Food Manufacturers and Suppliers
- Food Related Service Providers
- Lecturers and Students
- Those who involved in food import/export & trading
- **This event is also open to the general public**

Investment

PACKAGE		FEES PER PAX	
		Investment	Investment IPTN
Single	A	RM900.00	RM850.00
Team	B	RM850.00	RM800.00

The Trainers

Ts. Dr. Azhar Mohamad

Ts. Dr Azhar Mohamad is a Director at Agrotechnology and Bioscience Division, Malaysia Nuclear Agency. Recognition by MBOT as Professional Technical (Nuclear & Radiological Technology). Specialization in mutation breeding of horticultural plants, fungi and molecular markers including DNA fingerprinting. To date, Dr Azhar and his group have generated more than 10 potential mushroom strains and have collaborated with various local and foreign agencies/co-operations such as, MARDI, UPM, UM UKM, UiTM, UMK, private companies and local growers plantation. In addition to being a researcher, Dr Azhar is also managing research, lecturing, servicing and consultation of his division and the officer-in-charge for in vitro propagation of mushroom strains and new breed seedlings of mushroom strains at Logi Agroproduct

Dr. Zaiton Ahmad

Dr Zaiton Ahmad currently hold position as Manager at the Plant Improvement Group, Agrotechnology & Biosciences Division. She specializes in mutation breeding of horticultural plants, including molecular identification of the mutants. To date, Dr Zaiton and her group have generated more than 20 new plants varieties, and have collaborated with various local and foreign agencies/cooperations such as National Landscape Department, MARDI, UPM, Hexagon Green Sdn Bhd, Japan Atomic Energy Agency and Forum for Nuclear Cooperation in Asia (FNCA). In addition to being a researcher, Dr Zaiton is also managing research services and consultancies of her division and the officer-in-charge for a commercial plant tissue culture laboratory (Flora Vitro Lab) and a transgenic glasshouse (Bio Design Facility).

Shyful Azizi Abdul Rahman

Shyful Azizi Abdul Rahman began his career at Malaysian Nuclear Agency (Nuclear Malaysia) in 2002 as Research Officer. His research interest lies in agricultural and environmental engineering using isotopic techniques and other related technologies. He has involved in various R,D and C projects since 2005, lead and participated in several International Technical Cooperation Projects and Coordinated Research Projects under the FAO and International Atomic Energy Agency (IAEA). His focus areas are plant-soil-water interactions and nutrient management of various crops such as rice and oil palm using isotopic technique and nuclear technology.

Ruzalina Baharin

Ruzalina Baharin is the Manager for ALURTRON, irradiation service centre in Nuklear Malaysia. Prior to this, Ruzalina was managing the Quality Laboratory of Sinagama, gamma irradiation plant, whereby she was tasked to look after the operation of quality laboratory work such as Operational Qualification (OQ) and Performance Qualification (PQ), dosimetry and customer requirements. She received her first degree in Chemical Engineering from University of Malaya in 2000 and obtained her MPhil in Radiation Physics from Brunel University in 2017. She also involved in R&D project of food irradiation and electron beam irradiation applications. While managing the electron beam irradiation facility, Ruzalina also doing internal auditing work of ISO 9001, ISO 13485, ISO 22301 and Safety Audit at Nuklear Malaysia. She taught Radiation Safety Management Audit, Radiation Processing Industry and Health & Industrial Safety at CoEN. In publication, she wrote few papers related with Risk Management, Food Irradiation and Dosimetry.

NON-IONISING RADIATION

ESH110

3 Days

Basic Non-Ionizing Radiation Safety

HRDF Claimable

CEP DOSH

Preamble

Lately, there is an increasing trend in the use equipment related to the non ionising radiation (NIR) in daily activities. NIR includes the spectrum of ultraviolet (UV), visible light, infrared (IR), microwave (MW), radio frequency (RF), and extremely low frequency (ELF).It is found in the wide range of occupational settings and can pose a considerable health risk to potentially exposed workers if not properly controlled. This safety course is designed to focus on physical properties and biological effects of relevant NIR beside to generate greater awareness on the non ionising radiation which needs special attention to the safety practices in order to protect the workers, public and environment.

Course Objectives

- To provide better understanding of the philosophy and principles of NIR safety
- To creating awareness on the biological effects and risks of NIR
- To learning the right procedures when dealing with NIR
- To acquiring the techniques and proper procedures in controlling the NIR exposure to the workers

Who Should Attend

Telecommunication/Electric/Electronic Industries Worker, Radiation Worker, Health and Safety Officer (HSO/HSE), Manufacturer/Supplier, Supervisor, Lab Assistant, Technologist, Technicians, Machine Operator (e.g. Radiologist/ Radiographer/ X-ray Operators), Engineer, Researcher, Lecturers, Students and those who are involved in the use of NIR related equipment in their daily activities.

Course Contents

- Basic information of relevant NIR
- Principles of protection in relevant NIR
- Sources of NIR and applications : Radiofrequency wave (RF), Laser, Microwave (MW) and Ultraviolet (UV)
- Quantity and Measurement of exposure
- Exposure dose and Limitation
- Monitoring and Working Procedure for relevant NIR
- Current Practices and Guidelines

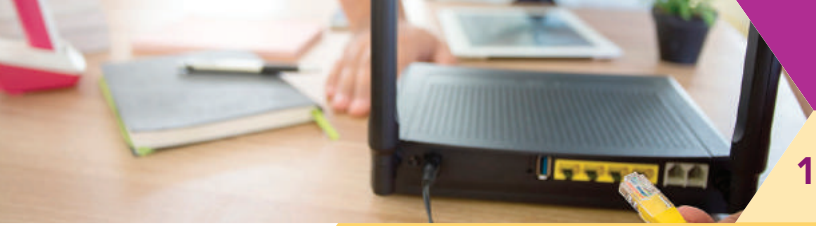
Investment

PACKAGE		FEES PER PAX	
		Investment	Investment IPTN
Single	A	RM1250.00	RM1185.00
Team	B	RM1180.00	RM1125.00

THIS COURSE CAN BE CONDUCT ONLINE

Methodology

- Participative lectures
- Demonstration
- Group discussion



ESH111

1 Day

Non-Ionising Radiation Safety Awareness

HRDF Claimable

CEP DOSH

Preamble

Nowadays, non-ionising radiation (NIR) is widely used in a diverse range of industrial, medical, telecommunication, agricultural, entertainments and broadcasting, household and office appliances. It is a legal requirement to protect employees and members of the public from the possible health hazards associated with exposure to NIR. This course will present the basic understanding of NIR and wide spectrum of NIR aspect to avoid misconception and misunderstanding. It will provide information on hazards, together with the physics of human interaction and will teach you how to achieve compliance with safe guidelines by learning how to assess measure and control the potential harmful exposure to electromagnetic radiation.

Course Objectives

- To understand the effects of NIR absorption in humans
- To learn how to assess potential hazards
- To discover the measurement procedures involved
- To understand how to apply safe guidelines as required

Course Contents

- Introduction to NIR
- Physical & Biological effect of NIR
- Sources of NIR and applications
- Regulatory aspect of NIR safety and it situation in Malaysia

Methodology

- Participative lectures
- Demonstration
- Group discussion

Who Should Attend

Telecommunication/Electric/Electronic Industries Worker, Radiation Worker, Safety & Health Officer (SHO), Manufacturer/Supplier, Supervisor, Lab Assistant, Technologist, Technicians, Machine Operator (e.g. Radiologist/ Radiographer/ X-ray operators), Engineer, Researcher, Lecturers, Students and those who are involved in the use of NIR related equipment in their daily activities.

Investment

PACKAGE		FEES PER PAX	
		Investment	Investment IPTN
Single	A	RM580.00	RM550.00
Team	B	RM550.00	RM520.00

THIS COURSE CAN BE CONDUCT ONLINE

ESH112

3 Days

Surveillance of Radio Frequency (RF) Radiation for Telecommunication Structure

HRDF Claimable

Preamble

Nowadays, the wireless technology relies upon an extensive network of fixed antennas, or base stations, relaying information with radiofrequency (RF) signals. Over 1.4 million base stations exist worldwide and the number is increasing significantly with the introduction of third generation technology. The extensive use of mobile phones has been accompanied by a public debate about possible adverse health effects. The main concerns relate to the emissions of radiofrequency (RF) radiation from the phones and from the base stations that receive and transmit the signals and allow communication with the network. Because of the developing concern, the need to keep the radiation to stay low and still below the limit recommended, there must be a compliance that should be followed especially for the safety of general public as well as individuals hired and trained to work in an RF environment (occupational). This course will focus on the scope and checklist that need to follow for assessing the compliance of the mobile phone and base stations against public exposure guidelines set by enforcement body.

Course Objectives

- To provide assistance in determining whether proposed or existing transmitting facilities, operations or devices comply with limits for human exposure to RF fields
- To offer guidelines and suggestions for evaluating compliance
- To demonstrates site compliance and provides standard site safety recommendation

Course Contents

- Radio Frequency Radiation Safety Practices : RF Health and Safety Outline
- Introduction to Mandatory Standard for Electromagnetic Field Emission from Radio-communications Infrastructure" and Compliance Penalties
- Steps to Compliance
- MPE Overview/MPE Math
- Work procedures when using RF monitors

THIS COURSE CAN BE CONDUCT ONLINE

Methodology

- Participative lectures
- Demonstration
- Group discussion

Who Should Attend

Network Service Provider (NSP), Network Facility Provider (NFP), commercial wireless service providers, building owners, tower owners, communication site management companies, government entities, and many others from various business sectors.

Investment

PACKAGE		FEES PER PAX	
		Investment	Investment IPTN
Single	A	RM1550.00	RM1470.00
Team	B	RM1470.00	RM1390.00

! This course is offered to companies that have a partnership with Malaysia Nuclear Agency

ESH126

1 Day

Laser Safety Awareness

HRDF Claimable

CEP DOSH

Preamble

For decades, laser has been using widely in the research activities and industries such as medical and telecommunication. Usage of laser can bring harm to users if it has not been handle with a proper procedure. Since the safety is the top priority and cannot be compromise, every personnel who deal with laser should be aware about the Laser Safety. The course will provide the safety information regarding laser equipment. Specifically, the course will cover the potential health hazards related to lasers, recognize laser warning signs and labels, and recognize the appropriate protective equipment when entering laser designated area. Participants also will gain knowledge about laser classifications and laser measurements. This 1 day course is designated to give a brief awareness on the laser usage in industrial and medical field that can help to minimize the accident in the workplace.

Course Objectives

- To understand the laser safety concepts
- To create awareness on the physical and biological effects
- To introduce the updated safety standards and legislation on laser usage.

Course Contents

- Basic on NIR
- Laser Characteristics
- Laser Hazards
- Laser Hazards Control
- Standard Regulatory Aspects and Safety Standards

Methodology

- Participative lectures
- Demonstration
- Group discussion
- Table top exercise

Who Should Attend

Electric/Electronic Industries Worker, Radiation Worker, Safety & Health Officer (SHO), Manufacturer/Supplier, Supervisor, Lab Assistant (Medical/ Industries), Technologist, Technicians, Machine Operator Engineer, Researcher, Lecturers, Students and those who are involved in the use of laser related equipment.

Investment

PACKAGE		FEES PER PAX	
		Investment	Investment IPTN
Single	A	RM580.00	RM550.00
Team	B	RM550.00	RM520.00

THIS COURSE CAN BE CONDUCT ONLINE

ESH300

5 Days

Laser Safety for Officer

HRDF Claimable

CEP DOSH

Preamble

Of late, there is an increasing trend in the use of equipment related to the non ionising radiation (NIR) in daily activities such as laser. The key element in the overall laser safety program is the Laser Safety Officer. The LSO is an individual designated by management who has the responsibility and authority to manage the overall laser safety program. The Laser Safety Officer must ensure that all employees who operate maintain, or service laser products are properly trained. The Laser Safety Officer is also responsible for establishing, monitoring, and enforcing laser controls, as well as evaluating laser hazards. This 5 days course is designed to generate greater awareness on the laser usage in industrial and medical field that needs special attention to the safety practices in order to protect the safety of workers and public.

Course Objectives

- To provide better understanding of philosophy and principle of NIR
- To create awareness on the physical and biological effects and risks on laser-tissue interaction
- To learn the right procedures when dealing with laser
- To provide knowledge of practical measures for reducing laser related risks
- To update the current safety standards and legislation on medical usage laser

Course Contents

- Basic information on NIR
- Introduction to Laser Radiation
- Quantity and Measurement
- Biological Effects of Laser Radiation
- Exposure Dose and Limitation
- Laser Safety Management
- Laser: Equipment Management
- Practical Control Measures
- Monitoring and working Procedure for Laser
- Regulatory Aspect of Laser Safety
- Current Laser Usage in Malaysia

Methodology

- Participative lectures
- Demonstration
- Group discussion
- Table top exercise

Who Should Attend

The LSO course is designed for all those involved in industrial, military, educational, medical, and cosmetic or research applications of lasers. It is tailored to the needs of safety professionals, engineers, operators, technicians, and other professionals assigned the duties of Laser Safety Officer or personnel whom are responsible on safety and health of workers and public.

Investment

PACKAGE		FEES PER PAX	
		Investment	Investment IPTN
Single	A	RM1550.00	RM1470.00
Team	B	RM1470.00	RM1390.00

THIS COURSE CAN BE CONDUCT ONLINE

The Trainers

Roha Tukimin

Roha Tukimin currently hold a position as Manager of NIR Group, Radiation Health and Safety Division at Nuclear Malaysia. She is responsible for non-ionising radiation including RF, ELF, UV and laser consultation and research with various companies including public and government sectors.

Shamesh Raj Parthasarathy

Shamesh Raj Parthasarathy currently hold the position of Research Officer in the Non-ionizing Radiation (NIR) department, Radiation Safety & Health Division. Overall 7 years of experience in Radio Frequency (RF) and broadcasting engineering in the Satellite and broadcasting Industry and 3 years of experience in RF and Extremely Low Frequency (ELF) safety assessment. His duties are consultation and service work on Non-Ionizing Radiation (NIR) for Ministry Of Health (MOH), Malaysian Communication and Multimedia Commission (MCMC), local councils, telecommunication company, government agency, industries including performing Radiofrequency (RF) and Extremely Low Frequency (ELF) safety assessment and research work on the RF and ELF field.

Mohd Yusnisyam Yusof

Mohd Yusnisyam Yusof currently hold a position as a Research Officer at the Leading Edge Non-Destructive Testing Technology (LENDT) Group of the Industrial Technology Division, Malaysian Nuclear Agency (since 2007). Currently, he is the Head of the Electromagnetics and Optics unit for the LENDT group which responsible for R&D activities related to electromagnetic and advanced NDT i.e. laser shearography, pulsed eddy current (PEC), eddy current thermography and magnetic flux leakage (MFL).

Wan Syazlin Wan Yunoh

Wan Syazlin Wan Yunoh currently hold the position of Research Officer at Non-Ionising Group (NIR), Radiation Health and Safety Division, Malaysian Nuclear Agency. Her task was conducting Research and offer Services and Consultation regarding the Non-Ionising Radiation related field including Safety Assessment on Radio Frequency (RF), Extreme Low Frequency (ELF), optical radiation; mainly on Ultraviolet (UV) radiation and Laser. She also a Quality Manager for the NIR Group accredited with MS ISO/IEC 17020:2012.

The Trainers

Others Training

How We Conduct

Public Training Course

This course is specifically design to meet the general needs and requirement of any organization. Please refer to our training Agenda.

Agency-Based Programme

All course can be conducted as in company basis tailored to meet specific needs.

Consortia

A devide version of in-company programme, designed for a small group of companies that provide the benefit of customized programme and based on cost sharing principles.

E-Tuition

An online system that enable clients to reach our training programmes 'anywhere, anytime'. User can learn at own place, sit for a test and get certification.

Investment / Fees for Agency Based Programme

Programme (No. of days)	1 DAY	2 DAYS	3 DAYS & ABOVE
Fees/Rate*	RM 3600.00	RM 6800.00 @ RM 3400.00 per day	RM 9600.00 @ RM 3200.00 per day
Certificate	Statement of Attendance	Statement of Attendance	Certificate of Attendance

** subject to change*

- Bench fees of RM750.00 per day are charges for course conducted in Nuclear Malaysia
- Programme conducted outside Nuclear Malaysia, additional cost for accommodation, food and travelling will incur.
- Fees must be paid in advance through bank draft/ money order/ cheque/ L.O. payable to: **KETUA PENGARAH AGENSI NUKLEAR MALAYSIA**

How to Register

Please send us the complete registration form or participant's details (Name, I/C, Company, Preferred Course and Date, Contact Info) via:

Post-mail

Director General
Malaysia Nuclear Agency (Nuklear Malaysia)
Suite 57, Kompleks Jalan Dengkil
Bangi, 43000 Kajang
Selangor
(Attn: Center of Nuclear Excellence (CoNE)

Fax

03 – 8911 2180

E-mail

sabariah_ibrahim@nuclearmalaysia.gov.my
farizal@cc.nuclearmalaysia.gov.my
nurhidayu@nuclearmalaysia.gov.my
hadza@nuclearmalaysia.gov.my

Online Registration

http://eclient.nuclearmalaysia.gov.my
http://trainingcentre.nuclearmalaysia.gov.my

Walk-in

Walk in participants with payment will also be admitted on a space available basis.

Further Information

Please visit our website: http://trainingcentre.nuclearmalaysia.gov.my

Pusat Kecemerlangan Nuklear

WhatsApp group: https://chat.whatsapp.com/6V2Ldk09wcKFlt4W9O2zlp

Nuclear Malaysia Training

Terms and Conditions

Full registration fee is required with the registration form. Fees include the cost of training material, luncheons, coffee break and refreshment. Payment through Bank Draft / Money Order / Company Cheque / Local Order (L.O) should be crossed and made payable to **Director General Malaysia Nuclear Agency**. The management has the right to change the date / venue of the prior to the date with notice in advance.

Registration Form

Please tick (✓)

CHEMICAL AND ENVIRONMENTAL SAFETY COURSE

- ESH 220 ◯
- ESH 221 ◯
- ESH 222 ◯
- ESH 223 ◯

AGROTECHNOLOGY AND FOOD IRRADIATION COURSE

- ESH 121 ◯
- ESH 122 ◯
- ESH 224 ◯
- ESH 324 ◯
- ESH 325 ◯
- ESH 401 ◯

NON-IONISING RADIATION COURSE

- ESH 110 ◯
- ESH 111 ◯
- ESH 112 ◯
- ESH 126 ◯
- ESH 300 ◯
- ESH 400 ◯

Preferred starting date & venue:

Name (as in I.C/ Passport to be printed on certificated):

I.C / Passport No.:

New:

Old:

Designation:

Academic Qualification:

Meal Restriction No / Yes:

(If Yes, please state) _____

Position:

Company Name:

Company Address:

Email:

Telephone:

Fax:

Signatures:

The registration fee of RM _____ (money order / cheque / bank draft / local order) payable to **Director General Malaysian Nuclear Agency** closed herewith

Name of Approving Manager:

COMPANY STAMP

Date:

(Please photocopy for additional participants)

Agency-Based Programme Registration Form

Please tick (✓)

CHEMICAL AND ENVIRONMENTAL SAFETY COURSE	AGROTECHNOLOGY AND FOOD IRRADIATION COURSE	NON-IONISING RADIATION COURSE
ESH 220 ◯	ESH 121 ◯	ESH 110 ◯
ESH 221 ◯	ESH 122 ◯	ESH 111 ◯
ESH 222 ◯	ESH 224 ◯	ESH 112 ◯
ESH 223 ◯	ESH 324 ◯	ESH 126 ◯
	ESH 325 ◯	ESH 300 ◯
	ESH 401 ◯	ESH 400 ◯

BORANG PERMOHONAN LATIHAN ASAS AGENSI
(IN-COMPANY TRAINING REQUEST FORM)

CODE / TITLE NAME :

.....

.....

MODE OF TRAINING : ( ) **Classroom** ( ) **Online**

DURATION (NO. OF DAYS) : .....

TRAINING VENUE : .....

NUMBER OF PARTICIPANTS: .....

COMPANY DETAILS

Name of Company : .....
Address : .....
.....
.....
Name : .....
Designation : .....
E-mail : .....
Tel. (off.) : ..... **(h/p):** .....
Fax : .....
Company Stamp : **Date :** .....

Inquries

Any inquiry or other information, please contact:

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Malaysian Nuclear Agency (Nuclear Malaysia)
Bangi, 43000 KAJANG
Selangor

+603.8911 2000 +603.8911 2180 www.nuclearmalaysia.gov.my

http://trainingcentre.nuclearmalaysia.gov.my

Manager

Nor Hadzalina binti Sukarseh

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Person in Charge

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