PAK-AUSTRIA FACHHOCHSCHULE:

INSTITUTE OF APPLIED SCIENCES AND TECHNOLOGY

AF-IAST
Skilling Pakistan

SKILL DEVELOPMENT SHORT COURSES

SKILLING PAKISTAN

CONTENTS

INTRODUCTION

Pak-Austria Fachhochschule Institute of applied sciences and Technologies (PAFIAST) offers a wide range of courses, encompassing both professional and personal development. Whether you're looking to pursue an interest or gain an edge in a particular skill, these courses are ideal for enhancing your abilities or strengthening your resume. They provide insights from beginner to expert levels in any field of your choice.

As PAFIAST focuses on skill development, these short course initiatives equips youth with necessary skills so they can gain employment or start their own business inthe least possible time. As the courses are designed according to the market/industry needs, thus provide a high-quality training through apt trainers and best infrastructure.

These courses are specifically designed to help learners acquire or improve specific skills, mostly related to a particular job or industry. They are practical and hands-on, aiming to equip participants with tangible abilities that can be directly applied in the workplace. Typically aimed at individuals seeking to enter a new field, enhance their existing skills, or meet the demands of a particular job market.

AREA OF TRAINING
ARCHITECTURE AND INTERIOR DESIGN

1. 3D RENDERING
(REALISTIC RENDERING)

This course in 3D rendering can be taken by people interested in field of architecture and interior design and wish to join the architectural design, construction and real estate industry through employment or by starting own company. Course provides students with complete process; from drawing development to fully rendered building using Scetchup, V-ray, Lumion, Enscape. Along with the regular course, special lectures will be conducted to trainthe students for the online work processes.

EARNING OPPORTUNITIES
After completing this course student can become part of Architecture Design, Real Estate and Construction Industry, the biggest industry in Pakistan. The skilled professionals can also work for international clients through online platforms. There is a big opportunity for the students to start their own online/hybrid businesses.

ELIGIBILITY
All the courses are open to everyone with atleast matriculation qualification. Basic computer literacy will be of advantage.

DURATION
Total duration of the course is 3 months with 3 classes every week of 4 hours duration.

2. INTRODUCTION TO CAD
(ARCHITECTURE AND INTERIOR)

This course provides hands on training using AutoCAD and Revit. Draftsmen and paraprofessionals working in architectural and interior design offices can be take this course to improve their skills. Construction and real estate industry also need these skilled persons. The trained students can also start their own companies and provide services to the industry. Course provides students with complete process; from drawing development to complete drawing set. Along with the regular course special lectures will be conducted to train students for the online work process.

EARNING OPPORTUNITIES
After completing this course student can become part of Architecture Design, Real Estate and Construction Industry, the biggest industry in Pakistan. The skilled professionals can also work for international clients through online platforms. There is a big opportunity for the students to start their own online businesses.

ELIGIBILITY
All the courses are open to everyone with atleast matriculation qualification. Basic computer literacy will be of advantage.

DURATION
Total duration of the course is 3 months with 3 classes every week of 4 hours duration.

AREA OF TRAINING
ANIMATION AND GAME DESIGN

1. 3D ANIMATION
(REALISTIC RENDERING)

This course in 3D animation can be taken by people interested in game, animation, graphics, media, information design and wish to join the visual communication industry through employment or by starting their own company. Course provides students with complete production cycle; from visualization to execution. Along with the regular course, special lectures will be conducted to train students for the online work process.

EARNING OPPORTUNITIES
After completing this course student can become part of $30 billion game and animation industry. Ever growing game and animation houses are hiring the skilled professionals to cater to the need of international clients and local industry needs. There is a big opportunity for the students to start their own online businesses as well.

ELIGIBILITY
All the courses offered are open to young men and women with matriculation qualification. Basic computer literacy will be of advantage.

DURATION
Total duration of the course is 3 months with 3 classes every week of 4 hours duration.

2. GAME DESIGN AND DEVELOPMENT

This course can be taken by people interested in working for game design industry both as freelancer or through employment. Course provides students with complete production cycle, from story to visualization to execution. Best labs and studios are available for training under the guidance of highly trained professionals. Along with the regular course special lectures will be conducted to train students for the online work process.

EARNING OPPORTUNITIES
After completing this course student can become part of $30 billion game and animation industry. Ever growing game and animation houses are hiring the skilled professionals to cater to the need of international clients and local industry needs. There is a big opportunity for the students to start their own online businesses as well.

ELIGIBILITY
All the courses offered are open to young men and women with matriculation qualification. Basic computer literacy will be of advantage.

DURATION
Total duration of the course is 3 months with 3 classes every week of 4 hours duration.

AREA OF TRAINING
PHOTOGRAPHY, FILM/TV AND GRAPHIC DESIGNING

1. GRAPHIC DESIGN
(UI/UX DESIGNER)

The demand for UI/UX designers is rapidly increasing, creating a significant gap in the market for trained professionals. As the fields of app, website, and interactive media designers continue to grow globally, this course aims to fill those gaps by providing comprehensive training. The curriculum covers gathering requirements in collaboration with product managers, using storyboards to communicate design ideas, and identifying new opportunities to enhance user experience. Additionally, special lectures will prepare students for online work processes.

EARNING OPPORTUNITIES
After completing this course student can become part of huge interactive design industry, with over six billion mobile phone users, it's a never-ending opportunity for UI UX designers. In the ever growing game, animation apps and website industry, the prospects are enormous. There is a chance for the students to start their own online businesses as well.

ELIGIBILITY
All the courses offered are open to young men and women with matriculation qualification. Basic computer literacy will be of advantage.

DURATION
Total duration of the course is 3 months with 3 classes every week of 4 hours duration.

2. GRAPHIC DESIGN
(PRINT MEDIA)

The market needs for graphic designers working in print media is always there as the packaging industry is growing due to ever expanding food and beverages industry. With the advent of new printing technology, it's very important to have skilled persons, therefore this course plays pivotal role in providing the industry with required human resource. Along with the regular course special lectures will be conducted to train students for the online work process.

EARNING OPPORTUNITIES
After completing this course, the students can become part of the huge packaging and printing industry. The trained graphic designers can get into the industry very easily. There is a big opportunity for the students to start their own online businesses as well.

ELIGIBILITY
All the courses offered are open to young men and women with matriculation qualification. Basic computer literacy will be of advantage.

DURATION
Total duration of the course is 3 months with 3 classes every week of 4 hours duration.

AREA OF TRAINING
PHOTOGRAPHY, FILM/TV AND GRAPHIC DESIGNING

3. GRAPHIC DESIGN AND VIDEO EDITING

The market needs for graphic designers and video editors have changed due to the advent of social media, therefore video editing skills are of utmost importance. This course is basically hands on with focus on social media content which requires special skill set. Trained web and social media content creators/designers will be part of the trainers to guide students toward special requirements of online content. Along with the regular course, special lectures will be conducted to train students for the online work process.

EARNING OPPORTUNITIES
After completing this course, student can become part of huge online content industry. The trained graphic designers can get into the industry very easily. There is a big opportunity for the students to start their own online businesses as well.

ELIGIBILITY
All the courses offered are open to young men and women with matriculation qualification. Basic computer literacy will be of advantage.

DURATION
Total duration of the course is 3 months with 3 classes every week of 4 hours duration.

4. PROFESSIONAL PHOTOGRAPHY, DOCUMENTARY AND MAKING

The market needs for professional photographers and documentary ad making have changed due to the advent of social media, therefore to trained professional is the main requirement. This course is basically hands on with focus on social media content which is mostly photography and video based. All the advertisement is shifting to social media where the technique is different from conventional photography and Ad making; size and duration of the content along with the right kind of photos is the core learning area. Along with the regular course special lectures will be conducted to train students for the online work process.

EARNING OPPORTUNITIES
After completing this course student can become part of huge online social media industry. The trained professionals can get into the industry very easily. There is a big opportunity for these professionals to start their own online businesses as well.

ELIGIBILITY
All the courses offered are open to young men and women with matriculation qualification. Basic computer literacy will be of advantage.

DURATION
Total duration of the course is 3 months with 3 classes every week of 4 hours duration.

5. DOCUMENTARY AND FILM MAKING
(DIGITAL BROADCASTING)

The market needs for professional have changed due to the advent of social media, therefore to trained professional is the main requirement. The conventional Television broadcast systems have changed to digital formats therefore this course focuses on production quality for broadcasting to provide crisp and clear imagery to viewers. This course collaborates with PTV and other channels to provide right training to the students. Along with the regular course special lectures will be conducted to train students for the online work process.

EARNING OPPORTUNITIES
After completing this course student can become part of media industry. The trained professionals can get into the industry very easily. There is a big opportunity for these professionals to start their own online businesses as well.

ELIGIBILITY
All the courses offered are open to young men and women with matriculation qualification. Basic computer literacy will be of advantage.

DURATION
Total duration of the course is 3 months with 3 classes every week of 4 hours duration.

6. OFFSET PRINTING

The market need for trained offset printing experts has started growing very rapidly due to the growth in food and beverages industry, the industry requires packaging to reach to the consumer market and competition between different brands require catchy designs for packaging. With emergence of new printing techniques, it has become necessary to train the new skills required for compelling designs. Our industrial partners are ready to provide their space to provide the training which will ultimately help them with availability of trained professionals in the field.

EARNING OPPORTUNITIES
After completing this course student can become part of huge packaging and printing industry. The trained professionals can get into the industry very easily. There is a big opportunity for these professionals to start their own small businesses as well.

ELIGIBILITY
All the courses offered are open to young men and women with matriculation qualification. Basic computer literacy will be of advantage.

DURATION
Total duration of the course is 3 months with 3 classes every week of 4 hours duration.

AREA OF TRAINING
TEXTILE AND FASHION

1. TEXTILE DESIGNING WITH CAD

Computer-Aided Design (CAD) has become essential in the textile industry, which is now valued at nearly three trillion dollars globally. This expansive sector offers significant earning potential. However, as industry requirements evolve, there is a critical need for skilled CAD professionals. Our state-of-the-art computer labs and qualified faculty are well-equipped to train individuals in the new skills necessary for creating textile designs that meet international standards. Our industrial partners are prepared to provide their facilities for this training, ensuring a steady supply of trained professionals for the industry.

EARNING OPPORTUNITIES
After completing this course student can become part of huge textile industry. The trained professionals can get into the industry very easily. There is a big opportunity for these professionals to start their own small businesses as well.

ELIGIBILITY
All the courses offered are open to young men and women with matriculation qualification. Basic computer literacy will be of advantage.

DURATION
Total duration of the course is 3 months with 3 classes every week of 4 hours duration.

2. FASHION DESIGN AND DRESS MAKING

The global size of the textile industry is approaching three trillion dollars, with fashion design and ready-made clothing representing the largest segment. The sector's growth both in Pakistan and internationally indicates significant earning opportunities. However, as industry requirements evolve, seizing these opportunities requires the right skills. That's where our trained staff comes in, providing the essential skills needed to succeed in this dynamic field.

EARNING OPPORTUNITIES
After completing this course student can become part of huge fashion industry. The trained professionals can get into the industry very easily. There is a big opportunity for these professionals to start their own small businesses as well.

ELIGIBILITY
All the courses offered are open to young men and women with matriculation qualification. Basic computer literacy will be of advantage.

DURATION
Total duration of the course is 3 months with 3 classes every week of 4 hours duration.

3. TEXTILE DYEING AND PAINTING

The global size of the textile industry is approaching three trillion dollars, with fashion design and ready-made clothing representing the largest segment. The sector's growth in Pakistan and internationally indicates that it offers significant earning opportunities. However, as industry requirements evolve, seizing these opportunities requires the right skills. That's where our trained staff comes in, providing the essential skills needed to succeed. There is always a demand for customized individual designs, and this course opens doors for skilled individuals to generate unique ideas, particularly in women's fashion, by adding personal touches to garments through dyeing and painting.

EARNING OPPORTUNITIES

After completing this course student can become part of huge fashion industry. The trained professionals can get into the industry very easily. There is a big opportunity for these professionals to start their own small businesses as well.

ELIGIBILITY

All the courses offered are open to young men and women with matriculation qualification. Basic computer literacy will be of advantage.

DURATION

Total duration of the course is 3 months with 3 classes every week of 4 hours duration.

4. TEXTILE WEAVING

The global size of the textile industry is approaching three trillion dollars, with fashion design and ready-made clothing representing the largest segment. The sector's growth in Pakistan and internationally indicates significant earning opportunities. However, as industry requirements evolve, seizing these opportunities requires the right skills. That's where our trained staff comes in, providing the essential skills needed to succeed. The ready-made fashion industry heavily relies on unique designs, and handwoven, naturally dyed materials are currently in vogue. Our weaving course offers trainees the right ideas to create compelling designs tailored to individual needs.

EARNING OPPORTUNITIES

After completing this course student can become part of huge fashion industry. The trained professionals can get into the industry effortlessly. There is a big opportunity for these professionals to start their own small businesses as well.

ELIGIBILITY

All the courses offered are open to young men and women with matriculation qualification. Basic computer literacy will be of advantage.

DURATION

Total duration of the course is 3 months with 3 classes every week of 4 hours duration

AREA OF TRAINING
TEXTILE AND FASHION

5. HAND AND MACHINE EMBRIODERY

Embroidery is like the cherry on top; the fashion industry relies on these interventions to provide customers with highly individual and customized dresses. Pakistan has a significant demand for clothing, particularly wedding dresses, and the international demand for embroidered clothing creates a huge opportunity for skilled professionals. Our courses cover all these areas under the supervision of trained faculty with fashion design degrees.

EARNING OPPORTUNITIES
After completing this course student can become part of huge fashion industry. The trained professionals can get into the industry very easily. There is a big opportunity for these professionals to start their own small businesses as well.

ELIGIBILITY
All the courses offered are open to young men and women with matriculation qualification. Basic computer literacy will be of advantage.

DURATION
Total duration of the course is 3 months with 3 classes every week of 4 hours duration.

AREA OF TRAINING
ELECTRICAL AND COMPUTER ENGINEERING

1. INTRODUCTION TO VLSI AND ASIC DESIGN

This course introduces participants to the VLSI fabrication processes and technology as well as ASIC design flow. This course focuses on developing familiarity with ASIC design tools e.g., Physical IC layout, transistor-level schematic, as well as SPICE verification and validation of designs. After completing the course, the participants will be able to design a small-scale ASIC from specifications to final chip ready for tape out.

EARNING OPPORTUNITIES
This course prepares you for potential job prospects in the field of chip design by providing theoretical knowledge and practical skills. Chip designers are required in big fabless companies as well as new tech startups.

ELIGIBILITY
Familiarity with digital logic design and semiconductor physics.

DURATION
Total duration of the course is 4 weeks | 2 Days, 6 hours per week

2. ADVANCED SOLAR INVERTER: DESIGN, FABRICATION, AND TESTING FOR PHOTOVOLTAIC APPLICATIONS

This course provides an in-depth exploration of solar inverter technology, focusing on the design, fabrication, and testing of solar inverters; crucial for photovoltaic (PV) applications. Participants will gain hands-on experience in developing efficient solar inverters, understanding key components, and optimizing performance for real-world PV systems. Ideal for engineers, researchers, and professionals seeking to enhance their expertise in renewable energy solutions.

EARNING OPPORTUNITIES
Unlock exciting job opportunities with our short course, designed to pave your way into fields such as design, fabrication, and testing of solar inverters for PV systems. Dive into a world of possibilities and enhance your career today.

ELIGIBILITY
FSc (or Equivalent). Additionally basic understanding of Physics is required.

DURATION
4 weeks | 2 Days, 6 hours per week

AREA OF TRAINING
ELECTRICAL AND COMPUTER ENGINEERING

3. SOLAR PV DESIGN AND INSTALLATION

This course covers the fundamentals of designing and installing solar photovoltaic (PV) systems, from initial site assessment to final grid connection. Participants will learn about system components, electrical design, safety standards, and best practices for efficient installation. Ideal for aspiring solar energy professionals, technicians, and engineers who want to gain practical skills and knowledge in the growing field of solar power.

EARNING OPPORTUNITIES
By enrolling in this short course, you'll gain vital knowledge and hands-on experience that can help you stand out in the job market. This course is perfect for anyone who pursues his career in PV systems, renewable energy, and repair and maintenance roles. Don't miss your chance to be part of this booming industry and pave the way for a sustainable future.

ELIGIBILITY
FSc (or Equivalent). Additionally, basic understanding of Physics is required.

DURATION
4 weeks | 2 Days, 6 hours per week

4. PROTOTYPING OF AN IOT NODE FOR DATA TRANSMISSION APPLICATIONS

This course is focused on exploring the applications of IoTs in the commercial industrial sector. The course will introduce the concept of industrial IoT, its need, and market analysis. Different implementation use cases pertaining to modern day industry will be studied and analyzed. Modern tools related to IoT system deployment, designing a project and dashboard design will also be carried out.
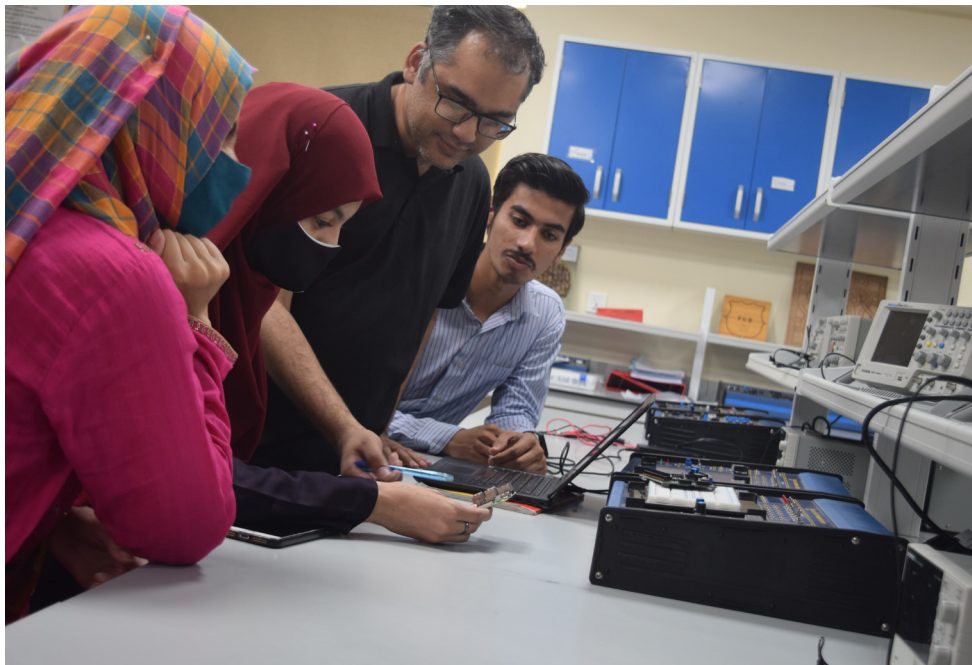
EARNING OPPORTUNITIES
Successful completion of this short course equips you with skills to pursue careers in the IoT industry, start-ups, embedded system design, and automation. Additionally, it will provide the opportunity to take on freelancing job
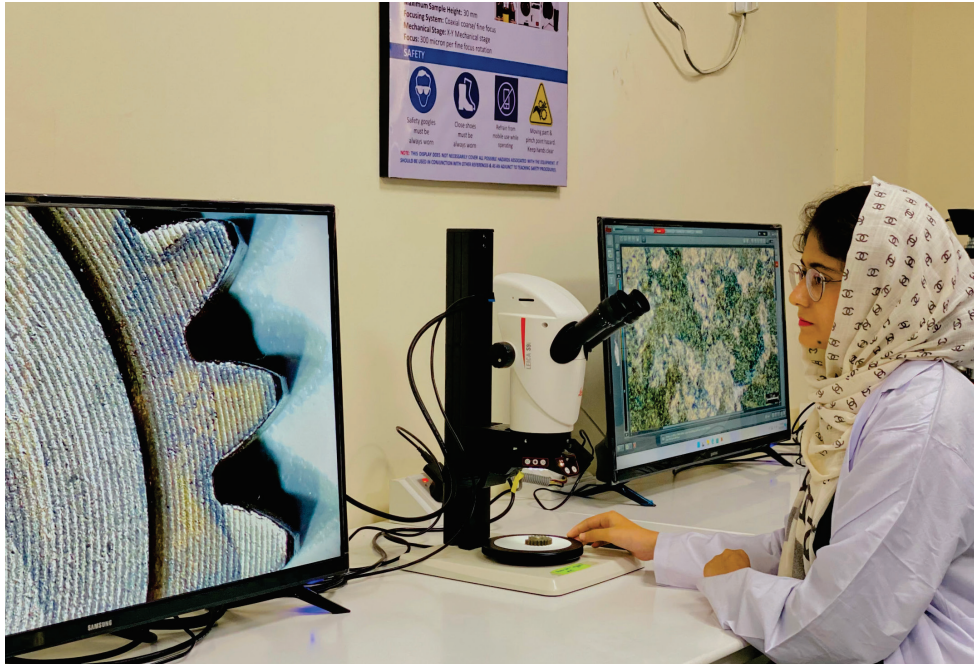
ELIGIBILITY
FSc (or Equivalent). Basic knowledge of programming will be a plus.

DURATION
2 Weeks | 2 Days, 6 hours per week

AREA OF TRAINING
MATERIALS ENGINEERING

1. INDUSTRIAL WELDING PRACTICES USING TIG / MIG WELDING

This short course is designed to cover critical topics in Industrial welding and joining such as tungsten inert gas welding and metal inert gas welding. It is well-suited for professionals or students looking to get a skill in Industrial welding.

EARNING OPPORTUNITIES
Industrial Plants, Metal Industry, automotive sector, oil & gas sector

ELIGIBILITY
Matriculation (SSC)

DURATION
2 weeks, 6 hours once a week

2. PROCESS CONTROL VALVES, CALIBRATION, AND FEEDBACK CONTROL SYSTEMS

This short course is designed to cover critical topics in instrument and process control. It is well-suited for professionals or students looking to gain a comprehensive understanding of control valves, calibration, and feedback control systems in a shorter timeframe.

EARNING OPPORTUNITIES
This course is relevant to industries like oil & gas, pharmaceuticals, chemicals, manufacturing, and automation, where precise control and instrumentation are critical for process optimization and safety.

ELIGIBILITY
Matriculation (SSC)

DURATION
2 weeks, 6 hours once a week

AREA OF TRAINING
CHEMICAL AND ENERGY ENGINEERING

1. CHEMICAL SUPERVISOR

This course will equip participants with the requisite skills to handle various plant operations including production, material processing, chemicals etc. It will also provide learning about health and safety related to plant unit, their functioning, and working principles.

EARNING OPPORTUNITIES
Production Industry

ELIGIBILITY
Matriculation/FSC/DAE

DURATION
26 Weeks 20 Hours per week

2. DATA ANALYSIS AND OPTIMIZATION

Start your journey in the high-growth field of data analytics with this program, designed to equip you with in-demand skills like Excel. From entry-level data analytics roles to future career developments like data science and artificial intelligence, this beginner-friendly program provides essential expertise and practical experience through real-world projects, giving you the tools to gather, model, analyze, and optimize the data that informs executive decision-making.

EARNING OPPORTUNITIES
Data analysis, economic sectors, and other relevant industries

ELIGIBILITY
F.Sc Pre-Engineering, ICS, B.E, B.Sc, B.Tech, DAE in Chemical, Mechanical, Process, Petroleum, Energy Engineering, B.Sc. Chemistry.

DURATION
2 Weeks 6 Hours per week

AREA OF TRAINING
CHEMICAL AND ENERGY ENGINEERING

3. DESIGNING PROCESS CONTROL SYSTEMS USING MATLAB/SIMULINK

The short Course on Designing Process Control Systems using MATLAB/Simulink provides an introduction to the principles and applications of process control, emphasizing the use of MATLAB/Simulink for modeling and simulation. Participants will learn to develop dynamic models, design and optimize control strategies, and apply these skills to real-world industrial scenarios. The course covers basic and advanced topics, including PID controllers, tuning, feedforward, cascade, adaptive control, and Model Predictive Control (MPC).

EARNING OPPORTUNITIES
Chemical Process Industry

ELIGIBILITY
F.Sc Pre-Engineering, ICS, B.E, B.Sc, B.Tech, DAE in Chemical, Mechanical, Process, Petroleum, Energy Engineering, B.Sc. Chemistry.

DURATION
3 Weeks 6 Hours per week

4. MICROSOFT EXCEL FOR CHEMICAL/PROCESS ENGINEERS

The course will help engineers learn how to use Excel effectively for their work. Excel is a widely used tool in the chemical and process industries for tasks like data analysis, process calculations, and creating models. By learning Excel's advanced features, engineers can better organize data, perform complex calculations, and build models that help in designing processes, solving problems, and creating reports. This course aims to give engineers the practical skills they need to use Excel more efficiently in their daily work.

EARNING OPPORTUNITIES
Research and Development, chemical process industry,

ELIGIBILITY
Process Engineers/Graduates/ diploma holders and students of Chemical/Mechanical/material Engineering and technology

DURATION
4 Weeks 6 Hours per week

5. ANALYTICAL AND CHARACTERIZATION TECHNIQUES

The course is focused on hands-on experience on Hi-Tech equipment such as XRD, FTIR, and AAS. The course will also cover the interpretation of the data. MS and PhD scholars need interpretation of the data of characterization.

EARNING OPPORTUNITIES
Research and Development, Minerals, Materials,

ELIGIBILITY
BS and MS students in Chemicals, Materials, Chemistry, Physics, and other relevant

DURATION
6 Weeks 9 Hours per week

6. WATER AND WASTEWATER ANALYSIS

The course will enable the participants to carry out water wastewater analysis.

EARNING OPPORTUNITIES
Analytical labs, food industry, TMA, PHED, WASA

ELIGIBILITY
Graduates/ diploma holders and students of Chemical/environmental/ materials/Engineering/ sciences, chemistry, and other relevant technologies/subjects

DURATION
1 Week 30 Hours per week

AREA OF TRAINING
CHEMICAL AND ENERGY ENGINEERING

7. INDUSTRIAL WASTEWATER TREATMENTS TO COMPLY WITH EPA

This course will address water scarcity in Pakistan, the availability of healthy drinking water, and industrial wastewater treatment and management. Environmental Protection Regulations in Pakistan, Canada, USA, and UAE. Case studies and discussion on the impact of industrial discharges on human health and ecosystem.

EARNING OPPORTUNITIES
Process industries, planning, designing, and maintenance services are provided. Health, economics, and industrial sectors.

ELIGIBILITY
This course is suitable for a wide range of professionals working in process industries (designing, operations, and production)

DURATION
2 Weeks 3 Hours per week

8. OCCUPATIONAL HEALTH AND SAFETY (UK LEVEL 3)

Do a general risk assessment in their workplace profiling and prioritizing risks, inspecting the workplace, recognizing a range of common hazards, evaluating risks (taking account of current controls), recommending further control measures, and planning actions.

EARNING OPPORTUNITIES
All Process Industries

ELIGIBILITY
Must be an Intermediate graduate/DAE

DURATION
1 Week 18 Hours per week

9. TEXTILE TESTING AND QUALITY CONTROL IN GARMENTS

Acquire operating skills and knowledge of garment Manufacturing Processes. After completion of the course, the students will gain detailed knowledge about quality, quality control, quality assurance, and statistical quality control. The students will acquire knowledge about different dimensions of quality and factors that affect quality and how they benefit the manufacturer and customers. They will be able to realize which fiber properties are suitable for the required quality of yarn and also will be able to decide which test result is acceptable from the given test results

EARNING OPPORTUNITIES
Garment Sector Textile Industry, Garment Factories (Knitwear + Woven garments), Fashion Designing Houses/ Department, Textile Testing Labs
Eligibility:
Matric

DURATION
26 Weeks 20 Hours per week

10. TEXTILE DYEING AND PRINTING (WET PROCESSING)

Textile Dyeing and Printing (Wet Processing) is an important job-role associated with the textile sector. The primary responsibility of a Textile Wet Processing Technician is to set up dyeing and printing machines, and dye and print the fabric as per industry standards. A Textile Wet Processing Technician is responsible for operating the machines according to fabrics and other articles according to yarns such as cotton, wool, nylon rayon, etc. He must be able to set up the fabric to the machine(s) for further operation. He must also be able to identify the technical discrepancies, if any, and fix them for smooth operations. He should be involved in the maintenance of the equipment e.g. oiling and cleaning of the machinery.

EARNING OPPORTUNITIES
Textile Wet Processing Technician, Stenter Machine Operator, Jigger Machine Operator, Package Dyeing Machine Operator, Printer operator, Printing Master

ELIGIBILITY
Matric

DURATION
26 Weeks 20 Hours per week

AREA OF TRAINING
BIOLOGICAL AND HEALTH SCIENCES

1. APPLICATIONS OF AI IN DRUG DESIGN AND DIAGNOSTICS

In this course, fundamental concepts of artificial intelligence and their application in drug design and discovery will be presented. The emphasis will be on machine learning and deep learning, which demonstrate extensive utility in many branches of computer-aided drug discovery including de novo drug design, QSAR (Quantitative Structure–Activity Relationship) analysis, drug repurposing and chemical space visualization. The course will also highlight how artificial intelligence techniques can be leveraged for developing chemoinformatic pipelines and presented with real-world case studies and practical applications in drug design and diagnostics.

EARNING OPPORTUNITIES
Multinational Pharmaceutical Companies, Diagnostics Industry, WHO, Public Health Organizations, Hospitals.

ELIGIBILITY
Graduation (Healthcare professionals, clinicians, technical professionals, pharmacists, public health professionals and biology graduates are encouraged to apply)

DURATION
12 weeks (3 Months), 3 hours once a week.

AREA OF TRAINING
DESIGN, MANUFACUTRING AND AUTOMATION

1. MECHATRONICS AND ROBOTICS ESSENTIALS

Discover the fundamentals of mechatronics and robotics in this comprehensive course. Learn to design, build, and control intelligent systems that integrate mechanical, electrical, and software engineering. Master the essentials of microcontrollers, sensors, actuators, and programming languages.

EARNING OPPORTUNITIES
Robotics Engineer, Mechatronics Engineer, and Automation Specialist. Additionally, expertise in mechatronics and robotics can also lead to careers in Artificial Intelligence, IoT Development, and Industrial Automation.

ELIGIBILITY
FSc (or Equivalent). Additionally, Familiarity with electronics & microcontrollers and basic knowledge of programming is required.

DURATION
Total duration: 4 weeks, 6 hours per week.

2. ENGINEERING ANALYSIS WITH ANSYS

Unlock the full potential of ANSYS simulation software to analyze and solve complex engineering problems. This course delves into advanced analysis techniques, including nonlinear dynamics, thermal analysis, and multiphysics simulations. Learn to interpret results, validate models, and make data-driven design decisions. Through interactive sessions and case studies, develop expertise in using ANSYS to troubleshoot, optimize, and refine your engineering designs, ensuring accuracy, efficiency, and reliability.

EARNING OPPORTUNITIES
Simulation Engineer, CAE Analyst, and Consulting Engineer. Additionally, expertise in ANSYS can also lead to careers in Design Optimization, Structural Analysis, and Research and Development.

ELIGIBILITY
- Familiarity with numerical methods (recommended)
- Basic knowledge of CAD software (recommended)

DURATION
Total duration: 8 weeks, 6 hours per week.

AREA OF TRAINING
DESIGN, MANUFACUTRING AND AUTOMATION

3. SIMULATION-DRIVEN DESIGN FOR METAL ADDITIVE MANUFACTURING

Unlock the full potential of additive manufacturing (AM) with simulation-driven design. Learn to leverage advanced simulation tools and techniques to optimize AM processes, predict performance, and validate designs. Discover how to reduce prototyping iterations, minimize material waste, and maximize product quality, preparing you for careers in aerospace, automotive, healthcare, and more.

EARNING OPPORTUNITIES
Additive Manufacturing Engineer, Design Engineer, and Research and Development Engineer. Additionally, expertise in simulation-driven design can lead to careers in Aerospace, Automotive, and Biomedical Engineering, where additive manufacturing is widely applied.

ELIGIBILITY
- Basic knowledge of computer-aided design (CAD) and finite element analysis (FEA)
- Familiarity with additive manufacturing processes and materials (recommended)

DURATION
Total duration: 8 weeks, 6 hours per week.

4. MULTIBODY DYNAMICS SIMULATION

Master the art of simulating complex systems with Multibody Dynamics Simulation. Learn to model, analyze, and optimize dynamic systems comprising multiple interconnected bodies, such as robots, vehicles, and mechanical mechanisms. This course covers the fundamentals of multibody dynamics, simulation software (Adams), and best practices for modeling, simulating, and visualizing dynamic behavior.

EARNING OPPORTUNITIES
Dynamics Engineer, Simulation Analyst, and Mechanical Systems Engineer. Additionally, expertise in multibody dynamics simulation can lead to careers in Robotics, Aerospace, Automotive, and Biomechanics, where complex system analysis is crucial.

ELIGIBILITY
- Basic knowledge of mechanics, dynamics, and mathematics
- Understanding of simulation software and modeling techniques (recommended)

DURATION
Total duration: 8 weeks, 6 hours per week.

AREA OF TRAINING
DESIGN, MANUFACUTRING AND AUTOMATION

5. CAD DESIGN AND MODELING

Learn the fundamentals of computer-aided design (CAD) and modeling in this hands-on course. Master the skills to create 2D and 3D models, edit and modify designs, and generate detailed drawings and prototypes. Using industry-leading CAD software, discover how to bring your ideas to life and develop precise, efficient, and effective designs. This course covers the essentials of CAD design and modeling, preparing you for careers in engineering, architecture, product design, and more.

EARNING OPPORTUNITIES
CAD Designer, Mechanical Draftsman, and Product Designer. Additionally, expertise in CAD can also lead to careers in Architecture, Engineering, and Manufacturing.

ELIGIBILITY
Intermediate

DURATION
Total duration: 4 weeks, 6 hours per week.

6. INTELLIGENT SYSTEMS DESIGN AND ANALYSIS WITH MATLAB/SIMULINK

Design and analyze intelligent control systems using MATLAB and Simulink, applying control theory and system modeling techniques. Learn to develop and simulate control systems, state-space models, and frequency response analysis. Master tools like Simulink's Control System Toolbox and MATLAB's Control Systems library, and apply control systems design principles to real-world applications, preparing you for careers in control systems engineering, automation, and robotics.

EARNING OPPORTUNITIES
Control Systems Engineer, Automation Engineer, and Robotics Engineer. Additionally, expertise in control systems design and analysis can lead to careers in Aerospace, Automotive, and Industrial Automation, where control systems play a crucial role.

ELIGIBILITY
- Basic knowledge of control systems, mathematics is required
- Familiarity with system modeling, analysis, and simulation techniques is recommended

DURATION
Total duration: 4 weeks, 6 hours per week.

AREA OF TRAINING
DESIGN, MANUFACUTRING AND AUTOMATION

7. AI FOR ENGINEERS

Unlock the power of Artificial Intelligence (AI) in engineering with this hands-on course. Learn to develop and apply AI solutions to real-world engineering problems, leveraging machine learning, deep learning, and natural language processing. Gain practical experience with popular AI tools and frameworks, and discover how to integrate AI into your existing engineering workflows to drive innovation, efficiency, and automation.

EARNING OPPORTUNITIES
AI Engineer, Machine Learning Engineer, and Data Scientist. Additionally, expertise in AI can lead to careers in Automation, Robotics, and IoT Development, where AI is increasingly applied to drive innovation and efficiency.

ELIGIBILITY
• Basic programming skills
• Familiarity with data structures and algorithms (recommended)

DURATION
Total duration: 8 weeks, 6 hours per week.

AREA OF TRAINING
IELTS
(INTERNATIONAL ENGLISH LANGUAGE TESTING SYSTEM)

1. APPLICATIONS OF AI IN DRUG DESIGN AND DIAGNOSTICS

Our IELTS Preparation Program provides a thorough and systematic approach to excelling in the IELTS exam. Led by seasoned instructors, the course offers focused training and intensive practice in all areas of the test: listening, reading, writing, and speaking. Participants benefit from individualized feedback and strategic guidance designed to boost their performance and help them achieve their target band score..

EARNING OPPORTUNITIES
Participating in IELTS training boosts your English language skills and test readiness, opening doors to better job opportunities and career advancement worldwide. Additionally, achieving a high IELTS score enhances your chances for academic and study opportunities abroad, as well as increasing your eligibility for immigration and residency options in English-speaking countries.

ELIGIBILITY
Preferably an intermediate graduate (Technically there are no prerequisites for IELTS)

DURATION
01 month/ 4 Weeks,
Weekend program (Saturday & Sunday) 3-hour sessions twice a week, totalling 6 hours of comprehensive instruction each week.

SKILLING PAKISTAN

www.paf-iast.edu.pk

PAF-IAST, KHANPUR ROAD, MANG, HARIPUR,
KHYBER PAKHTUNKHWA, PAKISTAN
Tell: 0995-931353