

# **HRODC Postgraduate Training Institute**

**A Postgraduate-Only Institution**

**177. M2**

**Advanced Software Engineering  
Course or Seminar**

**Leading To:**

**DIPLOMA – POSTGRADUATE IN**

*Advanced Software Engineering*

*Accumulating to*

**POSTGRADUATE DIPLOMA**

**Progressing To A Masters Degree –**

***MBA – MSc - MA***

**Course Coordinator:**

**Prof. Dr. R. B. Crawford – Director of HRODC Ltd. and Director of HRODC Postgraduate Training Institute, A Postgraduate-Only Institution. He has the following Qualifications and Affiliations:**

- Doctor of Philosophy {(PhD) (University of London)};
- MEd. Management (University of Bath);
- Advanced Dip. Science Teacher Ed. (University of Bristol);
- Postgraduate Certificate in Information Systems (University of West London, formerly Thames Valley University);
- Diploma in Doctoral Research Supervision, (University of Wolverhampton);
- Teaching Certificate;
- Fellow of the Institute of Management Specialists;
- Human Resources Specialist, of the Institute of Management Specialists;
- Member of Academy of Management (MAoM), within the following Management Disciplines:
  - Human Resources;
  - Organization and Management Theory;
  - Organization Development and Change;
  - Research Methods;
  - Conflict Management;
  - Organizational Behavior;
  - Management Consulting;
  - Gender & Diversity in Organizations; and
  - Critical Management Studies.
- Member of the Asian Academy of Management (MAAM);
- Member of the International Society of Gesture Studies (MISGS);
- Member of the Standing Council for Organisational Symbolism (MSCOS);
- Life Member of Malaysian Institute of Human Resource Management (LMIHRM);
- Member of ResearchGate Community;
- Member of Convocation, University of London;
- Professor HRODC Postgraduate Training Institute.

**Prof. Crawford was an Academic at:**

- University of London (UK);
- London South Bank University (UK);

- University of Greenwich (UK); and
- University of Wolverhampton (UK).

**For Whom This Course is Designed**  
**This Course is Designed For:**

- Applications Engineer;
- Computer and Information Systems Manager;
- Database Administrator;
- Help Desk Technician;
- Information Technology Director;
- Information Technology Manager;
- Management Information Systems Director;
- Programmer;
- Programmer Analyst;
- Security Specialist;
- Senior Applications Engineer;
- Senior Database Administrator;
- Senior Network Engineer;
- Senior Programmer Analyst;
- Senior Security Specialist;
- Senior Software Engineer;
- Senior Support Specialist;
- Senior System Administrator;
- Senior System Analyst;
- Senior System Architect;
- Senior System Designer;
- Senior Systems Analyst;
- Senior Systems Software Engineer;
- Senior Web Administrator
- Senior Web Developer;
- Software Engineer;
- Software Quality Assurance Analyst;
- Support Specialist;
- System Administrator;

- System Analyst;
- System Architect;
- System Designer;
- Systems Analyst;
- Systems Software Engineer;
- Technical Specialist;
- Telecommunications Specialist;
- Web Administrator;
- Web Developer;
- All Others Interested In Software Engineering.

**Duration:**20 Days (1 Month)

**Cost:**£20,000.00Per Delegate

**Please Note:**

- V.A.T. (Government Tax) does not apply to Corporate Sponsored Individuals, taking Programmes or Courses in any location - within or outside the UK.
- It applies only to Individuals and Corporations based in the UK and to Non-UK Individual Residents taking courses in the UK.

**Cost includes:**

- Free Continuous snacks throughout the Event Days;
- Free Hot Lunch on Event Days;
- Free City Tour;
- Free Stationery;
- Free On-site Internet Access;
- Diploma – Postgraduate – in **Advanced Software Engineering**; or
- Certificate of Attendance and Participation – if unsuccessful on resit.

**HRODC Postgraduate Training Institute's Complimentary Products include:**

1. HRODC Postgraduate Training Institute's **Leather Conference Folder**;
2. HRODC Postgraduate Training Institute's **Leather Conference Ring Binder/ Writing Pad**;
3. HRODC Postgraduate Training Institute's **Key Ring/ Chain**;
4. HRODC Postgraduate Training Institute's **Leather Conference (Computer – Phone) Bag** – Black or Brown;

5. HRODC Postgraduate Training Institute's **8GB USB Flash Memory Drive**, with Course Material;
6. HRODC Postgraduate Training Institute's **Metal Pen**;
7. HRODC Postgraduate Training Institute's **Polo Shirt**.

**\*\*Please see product images, as a separate file - Complimentary Products For Students and Delegates, from HRODC Postgraduate Training Institute.\*\***

**Daily Schedule:** 9:30 to 4:30 pm.

**Location:** Central London and International Locations

## **Advanced Software Engineering Leading to Diploma-Postgraduate in Advanced Software Engineering (Quad Credit)**

### **Course Objectives**

By the conclusion of the specified learning and development activities, delegates **will be able to:**

- Define software engineering;
- Explain why different application types requires specialised software engineering techniques to support their design and improvement;
- Estimate software cost;
- Identify the kinds of software products and give examples for each;
- indicate the Importance of software engineering in the software industry;
- Enumerate the fundamental activities that are common to all software processes;
- Determine the three general issues that affect most software;
- Identify the software engineering methods and techniques that are suitable for each your system and company;
- Name the different types of applications necessary to determine which software engineering methods and techniques are suitable;
- Explain the software engineering fundamentals which apply to all types of software system;
- Explain how the universal use of the web has changed software systems;
- Identify the ways web-based systems are engineered;

## Course Contents, Concepts and Issues

### **M2 – Part 1: Software Engineering-Software Process, Agile Software Development, Requirements Engineering, System Modelling, Architectural Design, Design and Implementation, Software Testing, and Software Evolution (1)**

- Introducing Software Engineering;
- Software Cost;
- Software Products;
- Importance of Software Engineering;
- Software Process Activities;
- General Issues That Affect Most Software;

### **M2 – Part 2: Software Engineering - Software Process, Agile Software Development, Requirements Engineering, System Modelling, Architectural Design, Design and Implementation, Software Testing, and Software Evolution (2)**

- Process Activities;
- The Rational Unified Process;
- Agile Methods;
- Plan-Driven and Agile Development;
- Extreme Programming;
- Agile Project Management;
- Scaling Agile Methods;
- Functional and Non-Functional Requirements;

### **M2 – Part 3: Software Engineering - Software Process, Agile Software Development, Requirements Engineering, System Modelling, Architectural Design, Design and Implementation, Software Testing, and Software Evolution (3)**

- Object-Oriented Design Using the UML;
- Design Patterns;

- Implementation Issues;
- Open Source Development;
- Development Testing;
- Test-Driven Development;
- Release Testing;
- User Testing;

## **M2 – Part 4: Dependability and Security -Sociotechnical Systems, Dependability and Security, Dependability Engineering, Security Engineering, and Dependability and Security Assurance (1)**

- Complex Systems;
- Systems Engineering;
- Systems Procurement;
- System Development;
- System Operation;
- Dependability Properties;

## **M2 – Part 5: Dependability and Security - Sociotechnical Systems, Dependability and Security, Dependability Engineering, Security Engineering, and Dependability and Security Assurance (2)**

- Software Reliability Specification;
- Redundancy and Diversity;
- Dependable Processes;
- Dependable Systems Architectures;
- Safety and Dependability Cases.

## **M2 – Part 6: Advanced Software Engineering -Software Reuse, Component-based Software Engineering, Distributed Software Engineering, Service Oriented Architecture, Embedded Software, and Aspect-Oriented Software Engineering (1)**

- The Reuse Landscape;

- Application Frameworks;
- Software Product Lines;
- COTS Product Reuse;
- Components and Component Models;

## **M2 – Part 7: Advanced Software Engineering - Software Reuse, Component-based Software Engineering, Distributed Software Engineering, Service Oriented Architecture, Embedded Software, and Aspect-Oriented Software Engineering (2)**

- Architectural Patterns for Distributed Systems;
- Software as a Service;
- Services as Reusable Components;
- Service Engineering;
- Software Development with Services;

## **M5 Part 8: Software Management -Project Management, Project Planning, Quality Management, Configuration Management and Process Improvement (1)**

- Risk Management;
- Managing People;
- Teamwork;
- Software Pricing;

## **M5 Part 9: Software Management - Project Management, Project Planning, Quality Management, Configuration Management and Process Improvement (2)**

- Software Measurement and Metrics;
- Change Management;
- Version Management;
- System Building;
- Release Management;



## **Service Contract, incorporating Terms and Conditions**

**Click, or copy and paste the URL, below, into your Web Browser, to view our Service Contract, incorporating Terms and Conditions.**

[https://www.hrodc.com/Service\\_Contract\\_Terms\\_and\\_Conditions\\_Service\\_Details\\_Delivery\\_Point\\_Period\\_Cancellations\\_Extinuating\\_Circumstances\\_Payment\\_Protocol\\_Location.htm](https://www.hrodc.com/Service_Contract_Terms_and_Conditions_Service_Details_Delivery_Point_Period_Cancellations_Extinuating_Circumstances_Payment_Protocol_Location.htm)

The submission of our application form or otherwise registration by of the submission of a course booking form or e-mail booking request is an attestation of the candidate's subscription to our Policy Terms and Conditions, which are legally binding.

**Prof. Dr. R. B. Crawford - Director HRODC Postgraduate Training Institute**