SCIENCE, ENGINEERING & TECHNOLOGY

Programme in Systems Engineering

BRIEF DESCRIPTION

It is no secret that engineers and managers in industry are expected to deal effectively with ever-increasing plant, product and system complexities. Many of the projects dealing with such systems are expensive, carry high risks and suffer from a shortage of skilled human resources. It then also does not come as a surprise that many of these projects fail in one way or other. It is known that only some 30 % (or less) of all projects are truly successful. By successful one implies that the product, system or plant emanating from such projects do in fact fully comply to all specifications, is within budget and has been completed on time. In response to this, and in search of solutions, managers tend to focus on improved project management by attempting to up-skill their responsible personnel, ensuring that they are trained in using the latest project management principles and tools. Unfortunately this addresses only one side of the project coin. The other side of the coin, namely up-skilling personnel in the effective use of relevant systems engineering principles is all too often neglected.

The University of Pretoria has for over a decade offered a Programme in Systems Engineering aimed at working professionals under the Continuing Education at UP umbrella. This programme has now been fully redesigned by modernising its content and making it modular and more flexible than before. This allows delegates to select from a number of specialist focus areas, each typically consisting of two or three modules and each leading to a Certificate. For those delegates who, over time, wish to add more knowledge to their systems engineering skills, the option exists to complete all three specialist areas, each leading to a Certificate. Those delegates who complete all three Certificates will also be awarded an Advanced Certificate in Systems Engineering in recognition.

COURSE CONTENT

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The programme allows delegates to select from three specialist areas, depending on their particular need at the time. These are Requirements Engineering, Systems Design and Systems Engineering Management. Each of these contains a number of modules which the delegate must successfully complete to earn any of the following (depending on the modules selected):
• Certificate in Requirements Engineering;
• Certificate in Systems Design;
• Certificate in Systems Engineering Management;
Successful completion of ALL three certificates will lead to the student being awarded an Advanced Certificate in Systems Engineering (once all relevant accreditations have been completed and approved by the appropriate national structures) without having to complete any further modules.

ASSESSMENT

Assessment is based on group assignments and an individual assignment on a work-related problem. A University of Pretoria certificate will be issued on the successful completion of each of the three specialist areas.

COURSE FEE

The programme fees include:
• INCOSE Systems Engineering Handbook
• Course notes for each module
• Refreshments and lunch
• Suitable training venue
Fees should be paid at least two weeks before commencement of class.
Delegates can register for all three certificates at once with a 10% discount, or register separately for each of the three certificates.

CONTACT DETAILS

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