This two-day course has been specifically designed for people new to subsea or unfamiliar with the various corrosion considerations which need to be applied during design, construction and operation of subsea assets.

The aim of this course is to provide an overview of the various materials and corrosion issues which are applicable to subsea structures. The choices made which impact one area of corrosion and integrity will often impact the choices in other areas, and also affect the long term inspection and monitoring which may be required to ensure the design life is met. Having a general overview of the interaction between the various factors and the impact that certain choices make and the equipment used in inspecting and monitoring the structures will provide attendees with a broad knowledge on the interaction which needs to be considered in any installation.

The course will be presented by experienced personnel from both the supply and subsea industries. Most of the course will be held in a classroom environment, with the session being interactive, with every opportunity to ask questions and discuss the material presented as well as a couple of site visits to relevant facilities.
DAY ONE

08:30 Registration and Coffee

08:45 Introduction - Grahame Strong, WGIM

Grahame will introduce the course by providing an overview of corrosion issues affecting subsea structures and setting the scene for the presentations to follow. He will cover the basic operating conditions for equipment (both internally and externally), basic design requirements and design considerations including costs etc. He will introduce the basic mechanisms of corrosion, and discuss the effects of elevated temperatures, CO\textsubscript{2}, H\textsubscript{2}S, sand, seabed topography and choice of material etc, on the rate of corrosion. To assist with the learning experience, Grahame will also outline a series of questions that the attendee should be able to answer at the end of the 2 day course.

09:30 Corrosion & Erosion Modelling

Adam Darwin, WGIM

Adam will discuss the various models which are available to model the effects of CO\textsubscript{2}, H\textsubscript{2}S and sand production on the internals of pipelines. He will compare the models, the information required for input and the advantages/disadvantages/limitations of each. These models are used to determine the corrosion allowance and the requirement for more exotic (corrosion resistant) pipeline materials in certain applications.

11:00 Coffee / Tea

11:15 Specification, Fabrication & Welding

Niekie Jooste, WeldNet

Niekie will cover the materials used in subsea installations and the issues related to welding them together. The types of welds, heat treatment, metallurgy of the welds, limitations imposed on welding offshore pipelines (on barges etc) and testing welds. A will also be provided to the same fabrication in an onshore environment.

12:45 Lunch

13:10 Depart Ibis for GE Oil & Gas—Jandakot Service Facility Site Visit

GE’s presentation will provide an overview of materials selection and corrosion control for oil and gas production equipment operating in a subsea environment. It will include a guided tour of the GE subsea service facility with the opportunity to view various items of subsea production Equipment.

15:30 Depart GE for Curtin University—Laboratory Site Visit

Delegates will visit the Corrosion Centre for Education Research and Technology (Corr-CERT) to develop an understanding of what exactly can be tested in this well-equipped facility.

17.30 (approximate) Arrive back at Ibis Hotel

18:00 Course Dinner - Venue advised within joining instructions

DAY TWO

08:45 Coffee/Tea

09:00 Chemical Selection, Injection & Inhibition

Farrell Backus, NALCO

This presentation will discuss the types of inhibitors which are available for application into oil & gas subsea production systems. Topics will include selection and qualification of inhibitors for systems utilising subsea injection via chemical umbilicals and systems utilising continuous MEG for hydrate control. Other challenges such as top of line corrosion management and downstream process impacts for using corrosion inhibitors will also be provided.

10:30 Coffee / Tea Break

10:50 Cathodic Protection & Coatings

John Grapiglia, CCE

John will cover the codes and standards which are used in the design of cathodic protection systems, the important factors which affect the performance of CP systems and a general overview on the issues related to CP and the interaction with coating systems.

12:30 Lunch

13:15 Operational Integrity & FFS

Andriy Dubyk, Rosen

Andriy will discuss pipeline pigging, codes and standards for defect assessment, types of pigs available, their benefits, the type of data which can be collected and limitations affecting intelligent pigging, and pipeline design. It will include how the data is processed and what information is available from the intelligent pigging of pipelines.

14:45 Coffee / Tea

15:05 Planning and Implementation of Inspection & Monitoring

Diede Rick Naude, Applus Rtd

Rick’s presentation will cover the issues which affect subsea structures and the type of inspection which are performed. It will include ROV inspections, ROV types, tooling, ROV capabilities and regulatory requirements for inspections. The data ideally required to be made available to the inspection company to thoroughly perform the inspections will be discussed as well as other testing/inspection which may be performed by other forms of inspection (such as divers etc).

16.35 Wrap up

16.45 Course End
**Registration Form**

Please e-mail completed form to [perthevents@sut.org](mailto:perthevents@sut.org) or fax to +61 (0) 8 9446 9905

Please tick to indicate your preferred payment method:  

- SUT Member No. ________________
- Credit Card ______ (Visa, MasterCard or AMEX *)  
- Cheque ______  
- Invoice (PO No.) ________________

Please tick appropriate box.

**Name** ___________________________________________________________________________________

**Company** ________________________________________________________________________________

**Address** _________________________________________________________________________________

**Phone no.** _____________________ **E-mail address (s)** ___________________________________________

**Credit Card No:** VISA or MASTER CARD ONLY.  ___________/__________/_________/__________

**Exp.** _______ / _______  

**Security no** __________ (last 3 digits on the back of your card)

**Name on the card** __________________________________________________________________________

**Billing Address if not as above** __________________________________________________________________

_________________________________________________________________________________________

**Amount to be charged** $___________  

**Signature** ____________________________________________

**E-mail address where receipt for credit card payment should be sent** ____________________________

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For further information on this event, please contact Jennifer Maninin [j.maninin@sut.org](mailto:j.maninin@sut.org)  
Tel: +61 (8) 9446 9903  
To register, please e-mail completed registration form to [perthevents@sut.org](mailto:perthevents@sut.org) or fax the completed form to +61 (8) 9446 9905