Next offering to be announced

The application of quantitative fatigue and fracture defect assessment procedures has been applied to marine (ship and submarine) structures, offshore platforms, pipelines and pressure vessels by BMT and other industrial performers. This course is designed to impart existing knowledge to those engaged in marine structure design and maintenance, and to demonstrate its application through practical examples.

Program Overview
The three-day course begins with a review of the fatigue and fracture problems observed in marine structures and how they have been addressed. This is followed by an introduction to material characterization for in-service defect and condition assessment with explanation of the quantitative procedures for assessing fatigue and fracture performance. The concepts discussed can be used at the design stage as well as in-service to select materials and size structural supports, to make maintenance and inspection decisions and to assess the life extension potential.

Attendees are encouraged to bring a laptop computer to participate in interactive sample applications of the concepts and approaches discussed using FlawCheck software provided free of charge by BMT.

Application
The program is geared toward the needs of naval architects, ship superintendents, marine surveyors and engineers responsible for design, material specification, welding, operational safety/risk and for scheduling and implementing maintenance. Senior students in naval architecture studies would also benefit from this course.

Course Content
- Historical and current experience
- Sea load components and structural response estimation
- Characterization of variable amplitude cyclic loads
- Global and local stress analysis
- Fatigue design curve approaches and limitations
- Fatigue and fracture mechanics concepts
- Damage tolerance/fitness-for-purpose analysis
- Effect of environment on fatigue performance
- Residual stresses in fatigue and fracture analysis
- Impact of fabrication/construction tolerances
- Interactive examples and exercises

Organized and hosted by:
Sponsored by BMT and ABS:
The course material will be presented and discussed by recognized experts in the application of fatigue and fracture mechanics-based methodologies.

**Course Leaders**

Dr. Roger Basu  
Director, Research and Development  
American Bureau of Shipping

Mr. Aaron Dinovitzer  
Structural Integrity & Reliability  
President, BMT Fleet Technology Limited

Dr. Harold S. Reemsnyder  
Consulting Engineer  
Structural Durability and Integrity

Dr. Sanjay Tiku  
Fatigue Specialist  
Principal Engineer, BMT Fleet Technology Limited

Additional industry guest lecturers will provide insight into fatigue issues and how they have been addressed.

Accredited by the Royal Institution of Naval Architects for Continuing Professional Development and by SNAME for compliance with NYSED guidelines for Continuing Professional Competency.

**Tentative Course Schedule**

**Day 1**  
Registration  
Course Introductions  
Historical Experience with Fatigue & Fracture  
Material Properties & Behaviour  
The Fatigue Design Process  
Loads on Ships  
Predictive Methods for Fatigue Initiation & Propagation  
Daily Examples  
Evening Reception

**Day 2**  
Stress Analysis  
Residual Stresses  
Fatigue Life Assessment  
Under Variable Amplitude Loading  
Fatigue in Welded Connections  
Effects of Fabrication and Detailing  
Practice on Fatigue & Fracture  
Daily Examples

**Day 3**  
Effects of the Environment  
Fracture Assessment  
Daily Examples  
Detailed Fatigue & Fracture Analysis Examples

If you are interested in taking this course, please submit the following form. You will be advised when dates and locations for the next offering are established.

For additional information, contact Brenda Thibault by fax (+1 613 592 4950) or email (bthibault@fleetech.com).

First Name: _______________________________  Last Name: ________________________________________________

Company: _______________________________  Address: ________________________________________________

City: ________________  State/Province: _________  Country:  _________  Zip/Postal Code: ________________

E-mail: __________________________  Tel:  _____________________  Fax:  __________________________

The organizers retain the right to cancel the course 35 days prior to the event if insufficient registrations are received. In this event, a full refund of the registration fees will be made. Delegates cancelling registrations 60 days prior to the course will receive a full refund. Cancellations made between 59 and 31 days prior to the course will result in a 50% refund. No refunds will be made for cancellations within 30 days of the course. No refunds of credit card surcharges will be issued. Substitutions are permitted for registrants who cannot attend.