

# UF/MF Membrane Short Course



Presented by Dr Graeme Pearce

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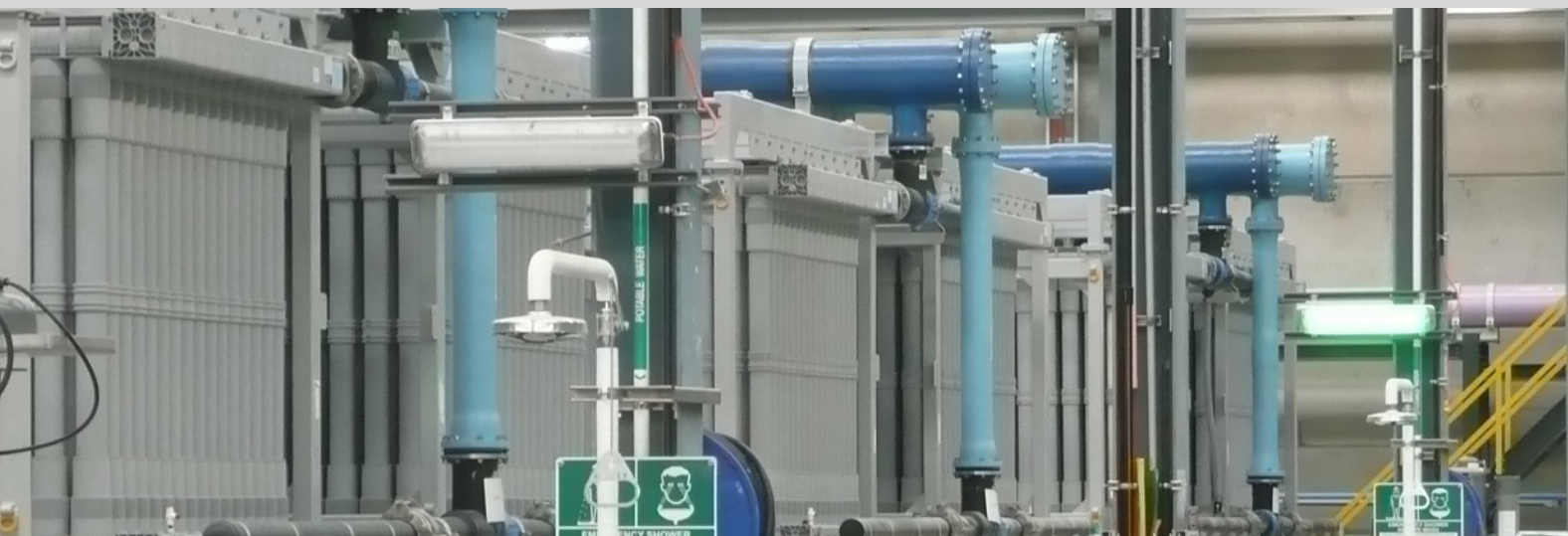


Photo courtesy of Water Corporation

## Dr Graeme Pearce (UK) presents his renowned UF/MF Membrane Short Course

AMS has joined with Membrane Consultancy Associates (MCA) to provide a comprehensive assessed short course in membrane filtration technology for water and wastewater treatment. The seminar has two modules, each taking place over two days, offering training at an Intermediate and Advanced level. Each module of the course has a standard syllabus with detailed content annually updated to ensure it reflects the latest developments and remains current.

Attend the Showcase to hear industry representatives from Australia's leading companies. Learn about services and products they offer, case studies and new directions they see for the industry.

### Who should attend?

- Oil & Gas industry, power generators, engineers
- Staff involved with the procurement of water treatment plants
- People involved in the policy and planning of water treatment facilities
- Operations and maintenance personnel, researchers and academics

## Melbourne, VIC

### Course Dates

#### Intermediate

11 & 12 September 2017

#### Advanced

13 & 14 September 2017

#### Showcase

15 September 2017

Both course modules are assessed at the end of each day as part of MCA accreditation. Attendees may elect not to pursue accreditation.

## Dr Graeme Pearce

Graeme is a membrane technology specialist with more than 30 years experience in the membrane industry. A graduate of Oxford University with a chemistry first degree and a chemical engineering doctorate. In 2005, Graeme formed an independent consultancy, Membrane Consultancy Associates, working with a broad spectrum of users and providers of membrane technology, as well as with new entrants and prospective investors.



## Intermediate Syllabus

### UF/MF Basics

Definitions and terms. Separation mechanisms and performance. Polymeric membrane materials and choice. Introduction to ceramic membranes. Surface characteristics. Fouling and control.

### Module Format & System Configuration

Module design options. Process sequence for filtration, backwash and cleaning cycles.

### Membrane Filtration Process Design

Application categories. Process design guidelines. Temperature correction and flux selection.

### Introduction to System Design

Components, layout and arrangement, and flowsheet.

### Comparative Review of UF/MF Suppliers

Commercial products overview and summary. Focused review of market leaders. Product specification and mode of operation.

### Applications

Current status, drivers, indicative markets and growth. Oil fouling and the experience of using ceramics for oily feeds. Energy comparison, conventional treatment and operating costs. Legislation, regulation and approval. Indicative performance.

### Performance and Membrane Fouling

Critical, threshold and sustainable flux. Permeability and fouling trends. Examples of sustainable flux calculated from case studies.

### Operational issues

Delivery, storage, commissioning, shutdown and mothballing. Membrane integrity testing and fibre repair. Calculating Log Removal Values (LRV) from pressure decay data.

## Advanced Syllabus

### UF/MF Properties

Polymeric membrane fabrication. Morphology and modification options. Surface charge and pore size distribution characteristics and comparison. Fibre dimensions and potting issues.

### Review of UF/MF Suppliers

Advanced issues in supplier developments. Product specification and mode of operation. Open platforms, Universal Rack, and the issue of interchangeability.

### Membrane Filtration System Design

Rack size selection and pipework velocity. Redundancy and tank sizing. Effect of flux variation.

### Ceramic Membranes

Advantages of ceramics compared to polymeric. Properties, pros and cons, surface characteristics. Comparison of system design with polymeric. Examples and fouling experience for oily waters.

### Foulants and Chemicals

Foulant categories. Removal and cleaning issues.

### Troubleshooting, Warranty and Applications

Problem investigation and monitoring. Failure modes and mechanisms; particle and bacterial contamination. Pressure spikes and potting problems. Effect of format on problems experienced. Remedy and fibre repair issues. Membrane System Warranty. Operating plant experience of fibre breakage frequency. Advanced Application Issues.

### Case Studies

Potable and wastewater, SWRO, Oil and Gas.

## Register now!

A 10% discount is given to each registrant, after the first two, from any one organisation registering at the same time.

An early bird discount (10%) is available until 21 July 2017. Special rate for full time university staff and students.

Register and pay online, or on invoice.

	Uni	EB	Full
Intermediate	\$1,080	\$1,620	\$1,800
Advanced	\$1,190	\$1,785	\$1,980
Both	\$2,155	\$3,230	\$3,590
Showcase	\$540	\$810	\$900

(All prices quoted ex GST)

## More Information

Visit [www.amsts.com.au](http://www.amsts.com.au) for more information and to complete your registration.

Email: [training@amsts.com.au](mailto:training@amsts.com.au)

Call: 0431 666 534 (AWST)

