

Welcome to the Pump Systems Course Induction

Course Induction

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Agenda

- Welcome
- Course overview
- What will you learn?
- Course delivery
- Course schedule
 - Pre-recorded modules
 - Workshops
- Workshop etiquette
- Collaborating on Teams
 - Using Teams

Course Overview

- Pump Systems – Fundamentals and Energy Reduction is a mid-level course consisting of on-line modules aimed at providing an overview of fundamental principles and methods to improve the efficiency and reduce energy consumption of pump systems.
- The course consists of 10 modules, 4 real time workshops and a final assessment. Each module video is 20-25 minutes in duration and is designed to review pump system fundamentals and apply them to real life applications. You can view the online modules any time prior to each workshop.

What will you learn?

- The importance of pump systems in the industry
- Understand the common information found on pump curves.
- To understand how to select and specify the correct pump for applications.
- Understand and calculate the impact to life cycle costing of oversizing pumps.
- To understand issues with operating under off-design conditions
- Understand main flow control methods.
- The importance of screening pump systems
- Applications and limitations of the pump affinity laws.
- Pump Impellor Trimming
- Understand the situations where variable speed drives may be an option.

Course Delivery

- Zoom Meeting and Microsoft Teams are the main technology platforms used for this course.
- All pre-recorded course modules will be available at the Appita website <https://appita.com/training-development/short-courses/25-courses/677-pump-systems-fundamentals-and-energy-reduction>
- Zoom Meeting will be used for interactive workshops and screening of online modules.
- Microsoft Teams will be used as the course collaboration platform so that participants can interact with the trainer and other course attendees throughout the course. By now you should have received an invitation to join MS Teams.

Course Schedule

- The course consists of 10 modules, 4 real time workshops.
- At the end of each - module block, a workshop will be conducted to consolidate learnings, ask questions and undertake some basic exercises.

MODULE	DETAILS
0	18 Aug 2021: Course Induction & Access to Modules 1 - 2 12:30 pm - 1:00 pm AEST / 2:30 pm to - 3:00 pm NZST
1	Introduction - Why pump systems matter?
2	Pump Curves and System Curves
	25 Aug 2021: Workshop 1 - Application of Modules 1 - 2 12:30 pm - 2:00 pm AEST / 2:30 pm to - 4:00 pm NZST
3	System Requirements & Pump Selection
4	How to Avoid Pump Oversizing
5	Off-design Operation
	8 Sept 2021: Workshop 2 - Application of Modules 3 - 5 12:30 pm - 2:00 pm AEST / 2:30 pm to - 4:00 pm NZST
6	Pump Flow Control Methods
7	Pump Systems Assessment for Energy Reduction
	22 Sept 2021: Workshop 3 - Application of Modules 6 - 7 12:30 pm - 2:00 pm AEST / 2:30 pm to - 4:00 pm NZST
8	Affinity Laws
9	Impellor Trimming
10	Variable Speed Drives for Energy Reduction
	6 Oct 2021: Workshop 4 - Application of Modules 8 - 10 & Course Close 12:30 pm - 2:00 pm AEST / 2:30 pm to - 4:00 pm NZST

Accessing Modules

Participants will be required to review online modules prior to attending each workshop.

- Visit the Appita website and navigate to <https://appita.com/training-development/short-courses/25-courses/677-pump-systems-fundamentals-and-energy-reduction>.
- Go to the Course Resources page click the relevant module and login using your Appita member login details. Note you have been given special access to this page. Please do not share your login details with anyone else.
- If you are not an Appita member we will provide you with a special course login.
- You will have access to the modules until the end of the course.



Pump Systems – Fundamentals and Energy Reduction

18 August 2021 and conclude on the 6 October 2021.

Pump Systems – Fundamentals and Energy Reduction is a mid-level course consisting of on-line modules aimed at providing an overview of fundamental principles and methods to improve the efficiency and reduce energy consumption of pump systems. [Read more](#)

Instructor: Dr. Martin Atkins, Waikato University

Registration closes Wed 4 August 2021

[Overview](#) [Course Instructor](#) [Course Topics](#) [Course Schedule](#) [Registration](#) [Resources](#)

VIDEO	SLIDE DECK (PDF)	TIME
18 Aug 2021: Course Induction	Induction Slide Deck	20 min
Module 1: Introduction – Why pump systems matter?	M1 Slide Deck	16 min
Module 2: Pump Curves and System Curves	M2 Slide Deck	24 min
25 Aug 2021: Workshop 1 – Application of Modules 1 - 2	WS1 Slide Deck	90 min
Module 3: System Requirements & Pump Selection	M3 Slide Deck	13 min
Module 4: How to Avoid Pump Oversizing	M4 Slide Deck	14.30 min
Module 5: Off-design Operation	M5 Slide Deck	17.40 min
8 Sept 2021: Workshop 2 - Application of Modules 3 - 5	WS2 Slide Deck	90 min
Module 6: Pump Flow Control Methods	M6 Slide Deck	13.20 min
Module 7: Pump Systems Assessment for Energy Reduction	M7 Slide Deck	16.50 min
22 Sept 2021: Workshop 3 - Application of Modules 6 - 7	WS3 Slide Deck	90 min
Module 8: Affinity Laws	M8 Slide Deck	TBC
Module 9: Impellor Trimming	M9 Slide Deck	TBC
Module 10: Variable Speed Drives for Energy Reduction	M10 Slide Deck	TBC
6 Oct 2021: Workshop 4: Application of Modules 8 - 10	WS4 Slide Deck	90 min

Workshops

- Interactive Virtual workshops will be run via Zoom meeting.
- Each workshop includes a series of activities and breakout sessions. Our workshops are designed to provide participants with opportunities to deepen their learning by applying concepts and articulating new knowledge through problem and scenario-based learning.
- During the workshop sessions you will be allocated to break out groups to complete group activities and tasks.
- Workshop details will be available via Microsoft Teams – Session Files

Workshop Etiquette

- There will not be any discussion on topics which might be or be seen to be in breach of trade practices law in Australia or New Zealand.
- Limit distraction: You'll retain the discussion better if you refrain from replying to emails or text messages during the meeting. Avoid multi-tasking.
- To help keep background noise to a minimum, make sure you mute your microphone when you are not speaking.
- Camera on please (and positioned so that we can see you) - doing so helps create a more direct sense of engagement with other participants.

Collaborating on Teams.

To optimize your learning experience, we encourage participants to use Teams to post questions and engage on topics discussed and learnt throughout the course.

Microsoft Teams will be used for:

- Storing workshop resources (Excluding pre-recorded modules – modules will be accessible only through the Appita website).
- Participants to post questions related to the course and workshops.
- Participants to interact with our trainer – Martin Atkins and other course participants on group activities.
- Sharing insight and perspectives.
- Seek help on any technical issues.

Questions?