

# 2019 COURSE DIRECTORY

## TA INSTRUMENTS SINGAPORE IN-HOUSE TRAINING COURSES



**TA Instruments – a Division of Waters Pacific Pte. Ltd.**

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[Map and Directions](#)



**LEGEND**

- Any new or existing user looking for basic theory, calibration information, and/or diverse application examples. Recommended to have a minimum of one-month experience using the instrument and have attended the operational training given by service engineer, in order to get the most benefit out of this course.
- Any new or existing user looking for advanced techniques and/or application examples, ways of optimization, maintenance & precautions. It is recommended for attendees with a minimum of two-month experience using the instruments and have attended the Theory & Applications Course, in order to get the most benefit out of this course.

**DSC THEORY & APPLICATIONS COURSE**

This course consists of two sessions: lecture and demonstration, designed to familiarize user with Differential Scanning Calorimetry (DSC) technique. Lecture mainly designed around the Discovery and Q Series instruments, with demonstration using the latest Discovery DSC analyzer. The course will cover:

- Theory of operation and Instrumentation
- Calibration
- Applications
- Overview of advanced DSC techniques: Heat Capacity, and Modulated DSC
- Experimental parameters
- Software operation
- Running Samples
- Data Analysis & Interpretation

This one-day course to be held in both classroom and laboratory, in a group setting of no more than 20 attendees. Attendees will witness DSC experiment setup, sample preparation, operation technique and data analysis.

TIME	FEES	COURSE CODE	RELEVANCE
9.00 AM - 5.00 PM	SGD 0		● ○

**DSC HANDS-ON COURSE**

This course consists of lecture and hands-on session with majority time in the lab, working on Differential Scanning Calorimeter (DSC) instruments, running samples and analyzing data. Lecture mainly designed around the Discovery and Q series instruments, with hands-on operation using the latest Discovery DSC analyzer. Attendees is recommended to have also taken the DSC Theory and Application Course prior joining this hands-on course. The course will cover:

- Overview of DSC Theory
- Optimization of Standard DSC experiment and Modulated DSC experiment
  - Instruments Calibrations
  - Sample and Instruments Preparation
  - Experimental Conditions and their effects
  - Data Reduction and Presentation
- Experimental parameters
- Software operation
- Running Samples
- Data Analysis & Interpretation

This one-day course to be held in both classroom and laboratory, in a group setting of no more than 12 attendees. Training materials will be provided. Attendees will experience hands-on DSC experiment setup, sample preparation, system operation and data analysis.

Attendees are welcome to bring along samples for analysis during this course. Samples can include but are not limited to polymers, dispersions and calibration materials. Subject to time availability, we will at least discuss experimental procedure.

TIME	FEES	COURSE CODE	RELEVANCE
9.00 AM - 5.00 PM	SGD 350*	999801.024	○



## TGA THEORY & APPLICATIONS COURSE

This course consists of two sessions: lecture and demonstration, designed to familiarize user with Thermogravimetry (TGA) technique. Lecture mainly designed around the Discovery and Q series instruments, with demonstration using the latest Discovery TGA analyzer. The course will cover:

- Theory of operation and instrumentation
- Calibrations
- Applications
- Overview of advanced TGA techniques:  
Hi-Res TGA, Automated Stepwise Isothermal, and  
Modulated TGA
- Experimental parameters
- Software operation
- Running samples
- Data analysis & interpretation

This one-day course to be held in both classroom and laboratory, in a group setting of no more than 20 attendees. Attendees will witness TGA experiment setup, sample preparation, operation technique and data analysis.

TIME	FEES	COURSE CODE	RELEVANCE
9.00 AM - 5.00 PM	SGD 0		● ○

## TGA HANDS-ON COURSE

This training course consists of two sessions, lecture and hands-on sessions. Lecture-based session is designed around the Q-series and Discovery series instruments. Hands-On session covers the New Discovery TGA analyzer. The course will cover:

- Overview of TGA Theory
- Optimization of Standard TGA experiment and  
advanced TGA techniques
- Maintenance and Precautions
- Experimental parameters
- Software operation
- Running Samples
- Data Analysis & Interpretation

This one-day course to be held in both classroom and laboratory, in a group setting of no more than 12 attendees. Training materials will be provided. Attendees will experience hands-on TGA experiment setup, sample preparation, system operation and data analysis.

Attendees are welcome to bring along samples for analysis during this course. Samples can include but are not limited to polymers, dispersions and calibration materials. Subject to time availability, we will at least discuss experimental procedure.

TIME	FEES	COURSE CODE	RELEVANCE
9.00 AM - 5.00 PM	SGD 350*	999801.022	○



### DMA THEORY & APPLICATIONS COURSE

This course consists of two sessions, lecture and hands-on. Both lecture-based and hands-on sessions are designed around the Q-Series DMA instruments. The course will cover:

- Theory of operation
- Instrumentation
- Calibration
- Applications
- Experimental parameters
- Software operation
- Running Samples
- Data Analysis & Interpretation

This one-day course to be held in the classroom and laboratory, in a group setting of no more than 8 attendees. Training materials will be provided. Attendees will experience hands-on DMA experiments setups, sample preparation, and data analysis.

Attendees are welcome to bring along samples for analysis during this course. Samples can include but are not limited to thermoplastics, thermoset polymers, and calibration materials. Subject to time availability, we will at least discuss experimental procedure.

TIME	FEES	COURSE CODE	RELEVANCE
9.00 AM - 5.00 PM	SGD 350*	999801.008	● ○

### RHEOLOGY THEORY & APPLICATIONS COURSE

This course consists of two sessions, lecture and hands-on. Lecture-based session is designed around the AR-series and Discovery series rheometers. Hands-On session covers the TRIOS and Discovery Hybrid Rheometer. The course will cover:

- Theory of operation
- Instrumentation
- Calibration
- Applications
- Experimental parameters
- Software operation
- Running Samples
- Data Analysis & Interpretation

This one-day training course to be held in the classroom and laboratory, in a group setting of no more than 8 attendees, with training materials provided. Attendees will experience hands-on rheological experiment setups, sample preparation and data analysis.

Attendees are welcome to bring along samples for analysis during this course. Samples can include but are not limited to polymers, dispersions and calibration materials. Subject to time availability, we will at least discuss experimental procedure.

TIME	FEES	COURSE CODE	RELEVANCE
9.00 AM - 5.00 PM	SGD 350*	999801.009	● ○



## SDT THEORY & APPLICATIONS COURSE

This course consists of two sessions, lecture and hands-on. Lecture-based session is designed around the Q-series and Discovery SDT. Hands-On session covers the TRIOS and Discovery SDT 650. The course will cover:

- Theory of operation
- Instrumentation
- Calibration
- Applications
- Experimental parameters
- Software operation
- Running Samples
- Data Analysis & Interpretation

This one-day training course to be held in the classroom and laboratory, in a group setting of no more than 8 attendees. Attendees will experience SDT experiment setup, sample preparation, and data analysis.

Attendees are welcome to bring along samples for analysis during this course. Samples can include but are not limited to polymers, dispersions and calibration materials. Subject to time availability, we will at least discuss experimental procedure.

TIME	FEES	COURSE CODE	RELEVANCE
9.00 AM - 5.00 PM	SGD 350*	999801.007	● ○

## CALENDAR

*Dates subject to change*

COURSE	FEBRUARY	MAY	AUGUST	NOVEMBER
DSC Theory & Applications	19 <sup>th</sup>	21 <sup>st</sup>	20 <sup>th</sup>	19 <sup>th</sup>
DSC Hands-on	20 <sup>th</sup>	22 <sup>nd</sup>	21 <sup>st</sup>	20 <sup>th</sup>
TGA Theory & Applications	21 <sup>st</sup>	23 <sup>rd</sup>	22 <sup>nd</sup>	21 <sup>st</sup>
TGA Hands-on	22 <sup>nd</sup>	24 <sup>th</sup>	23 <sup>rd</sup>	22 <sup>nd</sup>
DMA Theory & Applications	25 <sup>th</sup>	27 <sup>th</sup>	26 <sup>th</sup>	25 <sup>th</sup>
Rheology Theory & Applications	26 <sup>th</sup>	28 <sup>th</sup>	27 <sup>th</sup>	26 <sup>th</sup>
SDT Theory & Applications	-	29 <sup>th</sup>	-	27 <sup>th</sup>





## REGISTRATION FORM SINGAPORE

Kindly fill out the following form if you are interested to join this training course and email it to [Tina\\_Leong@waters.com](mailto:Tina_Leong@waters.com). Closing date is one week prior to the training date.

SALUTATION:

FIRST NAME:

LAST NAME:

COMPANY/UNIVERSITY/INSTITUTION:

SCHOOL/DEPARTMENT:

REGISTRATION TYPE:

NEW SYSTEM PURCHASE:

SERIAL NUMBER & COMMISSIONING DATE:

OTHERS:

EMAIL:

TELEPHONE:

OFFICE:

MOBILE:

COURSE NAME:

COURSE DATE:

*Seats are limited, registration is based on a first come, first served basis. Please indicate the date preferred.*

*Lunch and refreshments will be provided. If you have any dietary restriction (vegetarian/halal/no beef/no seafood), please indicate below:*

*\*Fee waiver is valid for 6 months from the date of a new system installation.*