PPFM

This section consists of recorded lectures derived from the FSEG five-day short course, Principles and Practice of Fire Modelling (PPFM). The material consists of Fire Dynamics, the theoretical basis of Fire Modelling, as well as practical presentation of the usage of the SMARTFIRE Fire Modelling Software.

	Title	Speaker	Duration (hh:mm:ss)
Day 1	Fire Field Modelling General Introduction	Prof Ed Galea	00:36:18
	Introduction to Fire Safety Engineering – Lecture 1	Prof Ed Galea	00:29:21
	Material Properties and Fundamental Concepts – Lecture 2	Prof Ed Galea	00:07:43
	Heat Transfer – Conduction – Lecture 3a	Prof Ed Galea	00:39:50
	Heat Transfer – Radiation – Lecture 3b	Prof Ed Galea	00:16:12
	Heat Transfer – Convection – Lecture 3c	Prof Ed Galea	00:14:30
	Fire Development – Lecture 4	Prof Ed Galea	00:59:33
	Zone Modelling (closed) – Lecture 5a	Prof Ed Galea	01:04:67
Day 2	Zone Modelling (open) – Lecture 5b	Prof Ed Galea	00:32:29
	Field Modelling Concepts – Lecture 6a	Prof Ed Galea	00:44:44
	Solving Algebraic Equations – Lecture 6b	Prof Ed Galea	01:08:41
	Concepts of Fire Field Modelling – Lecture 7	Prof Ed Galea	00:24:58
Day 3	General Equations – Lecture 8	Prof Mayur Patel	00:39:01
	Discretisation and Boundary Conditions – Lecture 9	Prof Mayur Patel	00:55:47
	Sub Models – Turbulence – Lecture 10a	Prof Mayur Patel	00:42:48
	Sub Models – Combustion – Lecture 10b	Prof Mayur Patel	00:53:09
	Sub Models – Radiation – Lecture 10c	Prof Mayur Patel	00:22:38
	Sub Models – Sprinklers – Lecture 10d	Prof Mayur Patel	00:30:41
	Introduction to Post Processing – Lecture 11	Dr John Ewer	00:24:53
Day 4	Fire Modelling Guidance – Lecture 12	Dr John Ewer	00:57:47
	Complex Geometry – Lecture 13	Dr John Ewer	00:31:59
	Working with CAD – Lecture 14	Dr John Ewer	00:25:13
	Guidance on Correct Usage of Fire Modelling – Errors – Lecture 15	Dr John Ewer	00:58:18
Day 5	Coupled Fire and Evacuation Simulations – Lecture 16	Dr John Ewer	00:20:59
	SMARTFIRE – Parallel Implementation – Lecture 17	Dr Angus Grandison	00:18:29

The recorded tutorials demonstrate how each exercise covered in the live tutorials are intended to be undertaken. Each tutorial takes you through different aspects of the software and different modelling techniques. During the live tutorials, the lecturer will also take the class through a live demonstration of the exercise and then each delegate will work through the tutorial exercise with assistance from the FSEG staff.

	Title	Speaker	Duration (hh:mm:ss)
01	Open Zone Modelling Introduction and Open Zone Demonstration.	Dr John Ewer	00:34:38
02	Open Zone Modelling tutorial continued.	Dr John Ewer	00:07:09
03	2D Field Modelling Introduction tutorial (steady-state heat conduction).	Dr John Ewer	00:57:51
04	Introduction to CFD Code – Lecture and Demonstration.	Dr John Ewer	01:05:33
05	CFD Fire Modelling Tutorial #1 – Building a simple fire case.	Dr John Ewer	00:35:22
06	CFD Fire Modelling Tutorials #2, #3 Walkthrough – Data Analysis and Post Processing.	Dr John Ewer	00:42:42
07	CFD Fire Modelling Tutorial #4 Walkthrough – Using Combustion and Triggers in a two-room Geometry.	Dr John Ewer	00:26:51
08	CFD Fire Modelling Tutorial #5 Walkthrough – Complex geometry – Modelling an Apex Roof.	Dr John Ewer	00:25:22
09	CFD Fire Modelling Tutorial #6 Walkthrough – Using CAD Import for Scenario Design.	Dr John Ewer	00:24:47
10	CFD Fire Modelling Tutorial #7 Walkthrough – Using the Parallel CFD Fire Model.	Dr Angus Grandison	00:15:21
11	Fire Modelling Validation Tutorial (Part 1) – Introduction.	Dr John Ewer	00:20:38
12	Fire Modelling Validation Tutorial (Part 2) – Scenario Set-up and Mesh.	Dr John Ewer	00:35:37
13	Fire Modelling Validation Tutorial (Part 3) – Simulation and Results.	Dr John Ewer	00:21:19