

NTEC15 – Severe Accidents - Timetable: 17th to the 21th April 2023

Individual lectures and exercises vary in length. Period durations are approximate and may be longer or shorter as determined by individual lectures.

A minimum of 1 hour 40 minutes will be reserved for breaks each day including short intra-period breaks.

There will be approximately 30 hours of taught content.

Early morning sessions are optional and are open opportunities for any additional questions.

	Optional Period 08:30 – 09:00	Period 1 09:00 – 10:40	Period 2 11:00-12:40	Period 3 13:30-15:10	Period 4 15:30-17:10
Monday		Course introduction. Assignment introduction Lecture 1: Introduction and Principles.	Lecture 2 History of Severe Accidents Discussion Lecture 3A-Thermodynamics	Lectures 3B and 4 Thermal-hydraulics in Severe Accidents (part 1)	Lectures 4 and 5 Thermal-hydraulics in Severe Accidents (part 2)
Tuesday	Available for questions and tutorial guidance	Lectures 6 and 7 Phase Diagrams and Materials Exercise	Lecture 8 Clad Oxidation	Lecture 9 Clad Ballooning Exercise	Lecture 10 Clad Embrittlement and Reflood Exercise and Discussion
Wednesday	Available for questions and tutorial guidance	Lectures 11 and 12 Fuel release and core degradation Discussions	Lecture 12 Core degradation	Lectures 13 and 14 Debris Quench and the Debris Bed Exercise and Discussion	Lectures 14 and 15 The Debris Bed and the Molten Pool
Thursday	Available for questions and tutorial guidance	Lecture 16 RPV Failure and Melt Ejection Discussion and Exercise	Lecture 17 Corium Spreading and MCCI Discussion	Lecture 18 Fission Product Retention	Lecture 19 Containment Chemistry and Source Term
Friday	Available for questions and tutorial guidance	Lecture 20 Hydrogen Combustion	Lecture 21 Severe Accident Codes	Lecture 22 Dispersion and Environmental Impact Discussion	Assignment introduction. Course wrap up and close.