

### NTEC15 – Severe Accidents - Timetable: 26<sup>th</sup> to the 30<sup>th</sup> April 2021

Individual lectures and exercises vary in length. Period durations are approximate and may be longer or shorter as determined by individual lectures. 1 hour 40 minutes will be reserved for breaks each day. Some lectures will be pre-recorded. For this year, Lecture 23 is unexamined and dispensable. However, it will be delivered or made available if there's an interest amongst students.

	<b>Period 1 08:30 – 10:20</b>	<b>Period 2 10:40-12:30</b>	<b>Period 3 13:30-15:20</b>	<b>Period 4 15:40-17:30</b>
<b>Mon</b>	Lecture 1 Introduction and Principles	Lecture 2 History of Severe Accidents <b>Discussion</b>	Lectures 3 and 4 Thermal-hydraulics in Severe Accidents (part 1)	Lectures 4 and 5 Thermal-hydraulics in Severe Accidents (part 2) <b>Exercise</b>
<b>Tue</b>	Lectures 6 and 7 Phase Diagrams and Materials <b>Exercise</b>	Lecture 8 Clad Oxidation	Lecture 9 Clad Ballooning <b>Exercise</b>	Lecture 10 Clad Embrittlement and Reflood <b>Exercise and Discussion</b>
<b>Wed</b>	Lectures 11 and 12 Fuel release and core degradation <b>Exercise and Discussion</b>	Lecture 12 Core degradation	Lectures 13 and 14 Debris Quench and the Debris Bed <b>Exercise and Discussion</b>	Lectures 14 and 15 The Debris Bed and the Molten Pool
<b>Thu</b>	Lecture 16 RPV Failure and Melt Ejection <b>Discussion</b>	Lecture 17 Corium Spreading and MCCI <b>Discussion</b>	Lecture 18 Fission Product Retention	Lecture 19 Containment Chemistry and Source Term
<b>Fri</b>	Lecture 20 Hydrogen Combustion	Lecture 21 Severe Accident Codes <b>Exercises</b>	Lecture 22 Dispersion and Environmental Impact <b>Discussion</b>	Lectures 23 and 24 Emergency Planning and REPPIR Uncertainty in Severe Accidents