

N18 C&I and Functional Safety
Taught Week Schedule, w/b 10th November 2025
Unit leads: Dr Chris Anderson (CA) and Dr David Smeatham (DS)

	9am – 12noon	1pm – 4pm (Fri 3pm)	Homework
Monday	Introductions (CA/DS) The Nature of Risk, Functional Safety and the ONR (CA) Accidents and their root cause – Part 1 (DS)	Accidents and their root cause – Part 2 (DS) Systems engineering, and failures (DS) Probabilistic Reliability (CA)	Day 1 online (Canvas) multiple choice questions (F) https://online.manchester.ac.uk/ultra/courses/_83038_1/cl/outline ‘Daily Multiple Choice Questions’ ‘Monday’
Tuesday	Systems engineering: Deterministic mitigations (DS) Systems Engineering: Standards, lifecycles, Categorisation, requirements, design and classification (DS)	Systems Engineering (inc. C&I and Plant Control (CA) Workshop – Safety System Case Study – Part 1 (DS)	Day 2 online (Canvas) multiple choice questions (F) https://online.manchester.ac.uk/ultra/courses/_83038_1/cl/outline ‘Daily Multiple Choice Questions’ ‘Tuesday’
Wednesday (Group A)	System Engineering: Integration and Commissioning, Config Management, Operations and Maintenance (DS) Safety Case (DS) Workshop – Safety System Case Study – Part 2 (DS)	C&I Choice of: Hardware, HDL programmed hardware and Software (CA)	Day 3 online (Canvas) multiple choice questions (F) https://online.manchester.ac.uk/ultra/courses/_83038_1/cl/outline ‘Daily Multiple Choice Questions’ ‘Wednesday’ Group B:
Wednesday (Group B)	Hands on control system design with a PLC Siemens Sir William Siemens House Princess Road, Manchester, M20 2UR See Siemens visit information below		Day 4 online (Canvas) multiple choice questions (F) https://online.manchester.ac.uk/ultra/courses/_83038_1/cl/outline ‘Daily Multiple Choice Questions’ ‘Thursday’
Thursday (Group B)	System Engineering: Integration and Commissioning, Config Management, Operations and Maintenance (DS) Safety Case (DS) Workshop – Safety System Case Study – Part 2 (DS)	C&I Choice of: Hardware, HDL programmed hardware and Software (CA)	Day 3 online (Canvas) multiple choice questions (F) https://online.manchester.ac.uk/ultra/courses/_83038_1/cl/outline ‘Daily Multiple Choice Questions’ ‘Wednesday’
Thursday	Hands on control system design with a PLC		Day 4 online (Canvas) multiple choice questions (F)

(Group A)	Siemens Sir William Siemens House Princess Road, Manchester, M20 2UR See Siemens visit information below		https://online.manchester.ac.uk/ultra/courses/_83038_1/cl/outline 'Daily Multiple Choice Questions' 'Thursday'
Friday	New and Future Developments in C&I (CA) Review Session Tutorial Session	Tutorial Session (Cont.) In-class test (S) (1h) Written Assignment/Group Presentation Assignment Brief (CA/DS)	Written assignment (S) Group presentation assignment (S)

F = Formative, S = Summative

Lunch will be between 12noon and 1pm. Breaks will be provided during the morning and afternoon sessions.

Homework (Multiple Choice Questions):

- Time limit for each daily quiz is 3 hrs once started
- Only one attempt is allowed
- Each quiz is made available at 4pm and will close at 7am the following morning
- You will be able to see the correct/incorrect answers at the end of the quiz

Siemens visit information:

- Transport will be provided from the university campus to Siemens (further information has been provided by Melanie McLoughlin).
 - **Gathering Address:** The front entrance of the Whitworth Building, Oxford Rd, Manchester M13 9PL (look for the large "University of Manchester" sign).



- **Destination Address:** William Siemens House, Princess Rd, Manchester M20 2UR
 - **Gathering Time:** 8:00 AM
 - **Pickup Time in the morning:** 8:20 AM
 - **Siemens training start time:** 9:00 AM
 - **Departure Time from Siemens:** 5:00 PM
- Arrive at reception and sign in ready to be accompanied to the customer training suite at 9am.
- You will be meeting Jason Phin (Siemens) who will be running the training day.
- One or both of David or Chris will be at Siemens at the arrival time but will leave shortly after the session starts.
- You can take comfort breaks as needed and will be given access to the bathroom facilities.
- There will be short breaks provided in the morning and afternoon.
- Lunch will be approximately between 12 noon and 1pm.
- Lunch will be provided by Siemens (sandwiches or hot meal).
- Alternatively, you can bring your own lunch and eat in the canteen.
- You will leave the customer training suite at approximately 4pm.
- Please be professional at all times and be grateful to Siemens and Jason Phin in particular for this valuable opportunity.