

Addendum to the Programme Specification

4443 MEng Computer Science
4444 MEng Computer Science with Artificial Intelligence
7006 MEng Computer Science with Cyber Security

This Addendum has been produced to highlight the key changes made to the existing Programme Specification as a result of the University's response to the Covid-19 Pandemic. You should read it in conjunction with the relevant Programme Specification from the year you started your programme.

[Programme Specification for entry in 2020-21](#)
[Programme Specification for entry in 2019-20](#)
[Programme Specification for entry in 2018-19](#)

University level information

In view of COVID-19, the University has had to make changes to some elements of programme delivery for 2020-21. These changes have included the method of delivery, such as face-to-face and online, and the number of modules available.

The University aims to provide as much of a face-to-face component to your education as prevailing conditions at the time allow, combined with its new blended approach that will develop active independent and group online learning.

As the COVID-19 pandemic develops, the University's response to this and other issues may likewise need to evolve. The University will consult with student representatives as necessary and appropriate and will communicate changes to you as soon as practicable so that you have the information you need to understand how a change may impact you and what steps you need to take next. The University remains committed to supporting you as you learn.

Programme Information

The following changes will be made to the computer science programmes in response to the COVID-19 pandemic:

- Where written examinations are unable to take place due to social distancing measures, an alternative form of assessment will be offered for 2020-21
- There will be some changes to how some group work tasks and lab work will be organised. ECS aims to reopen the teaching laboratories and hold regular scheduled sessions in S1 2020-21, following social distancing rules and regulations. In some cases, laboratory experiments have been redesigned to be either software based or virtual. In other cases, you may be working on numerical data obtained from physical experiments.

All timetabled lectures that in a normal (i.e. face-to-face) situation could be recorded will be recorded and will be made available to all students registered on the module. The teaching team for each module will organise question-and-answer sessions, or discussion activities aimed at approximating (as much as possible) the personal interaction that occurs during lectures and seminars.

Programme Structure

The indicative list of available optional modules can be found in the programme specifications as linked on the previous page. These options are subject to change each academic year, and in some cases there may be limited spaces available on those modules.:

4443 MEng Computer Science

Programme:	MEng Computer Science - 4443
Term:	2020-2021 Academic Session (202021)
Area title:	4443-1 - Computer Science Part 1

Compulsory Modules

You must complete the following modules:

Module	Module Title	Credit	Core?	Semester/Term
COMP 1201	Algorithmics	15	Yes	Semester 2
COMP 1202	Programming I	15	Yes	Semester 1
COMP 1203	Computer Systems I	15	Yes	Semester 1
COMP 1204	Data Management	15	Yes	Semester 2
COMP 1205	Professional Development	15	Yes	Semester 1
COMP 1206	Programming 2	15	Yes	Semester 2
COMP 1215	Foundations of Comp Sci	15	Yes	Semester 1
COMP 1216	Software Modelling & Design	15	Yes	Semester 2
ELEC 1028	TT Personal Tutorial	0	Yes	Full Academic Year

Programme:	MEng Computer Science - 4443
Term:	2020-2021 Academic Session (202021)
Area title:	4443-2 - Computer Science Part 2

Compulsory Modules

You must complete the following modules:

Module	Module Title	Credit	Core?	Semester/Term
COMP 2207	Distributed Systems & Networks	15	No	Semester 2
COMP 2208	Intelligent Systems	15	No	Semester 1
COMP 2209	Programming III	15	No	Semester 1
COMP 2210	Theory of Computing	15	No	Semester 1
COMP 2211	Software Eng Group Project	15	No	Semester 2
COMP 2212	Prog Language Concepts	15	No	Semester 2
COMP 2213	Interaction Design	15	No	Semester 1

Optional Modules

You must choose from the following modules:

Module		Credit	Semester/Term
Rule OPTIONAL	Select 1 Semester 2 module		
Rule SET 1	Select 0 to 1 modules		
COMP 2214	Advanced Software Modelling and Design	15	Semester 2
COMP 2215	Computer Systems II	15	Semester 2
COMP 2216	Principles of Cyber Security	15	Semester 2
Rule SET 2	Select 0 to 1 modules		
ANTH 2001	Cosmology, Ritual and Belief	15	Semester 2
CHEM 2012	Change and Equilibrium	15	Semester 2
CRIM 1004	Criminal Justice Studies	15	Semester 2
LANG XX15	Language Module	15	Show Electives
PHYS 2015	Introduction to Energy in The Environment	15	Semester 2
SOC1 2003	Gender & Society	15	Semester 2

UOSM 2017	Intercultural Communication in a Global World	15	Semester 2
UOSM 2031	Engineering Replacement Body Parts	15	Semester 2

Programme:	MEng Computer Science - 4443
Term:	2020-2021 Academic Session (202021)
Area title:	4443-3 - Computer Science Part 3

Compulsory Modules

You must complete the following modules:

Module	Module Title	Credit	Core?	Semester/Term
COMP 3200	Part III Individual Project	45	Yes	Full Academic Year
COMP 3219	Engineering Management & Law	15	Yes	Semester 1

Optional Modules

You must choose from the following modules:

Module		Credit	Semester/Term
Rule OPTIONAL	Select 4 modules Two modules in Semester 1 and two modules in Semester 2		
Rule SET 1	Select 1 to 4 modules		
COMP 3204	Computer Vision	15	Semester 1
COMP 3207	Cloud Application Development	15	Semester 1
COMP 3208	Social Computing Techniques	15	Semester 2
COMP 3210	Advanced Computer Networks	15	Semester 2
COMP 3211	Advanced Databases	15	Semester 2
COMP 3212	Computational Biology	15	Semester 2

COMP 3215	Real-Time Computing and Embedded Systems	15	Semester 1
COMP 3217	Security of Cyber Physical Systems	15	Semester 2
COMP 3218	Game Design and Development	15	Semester 1
COMP 3220	Web Infrastructure	15	Semester 1
COMP 3225	Natural Language Processing	15	Semester 2
COMP 3226	Web and Cloud Based Security	15	Semester 1
ELEC 3201	Robotic Systems	15	Semester 1
ELEC 3219	Advanced Computer Architecture	15	Semester 2
Rule SET 2	Select 0 to 1 modules		
COMP 3222	Machine Learning Technologies	15	Semester 1
COMP 3223	Foundations of Machine Learning	15	Semester 1
Rule SET 3	Select 0 to 2 modules		
ANTH 2001	Cosmology, Ritual and Belief	15	Semester 2
HUMA 2013	How the Arts Work: A Practical Introduction to Cultural Econ	15	Semester 1
LANG XX15	Language Module	15	Show Electives
PHYS 2015	Introduction to Energy in The Environment	15	Semester 2
SOC1 2003	Gender & Society	15	Semester 2
UOSM 2004	Global Health	15	Semester 1
UOSM 2017	Intercultural Communication in a Global World	15	Semester 2
UOSM 2022	Social Enterprise	15	Semester 1
UOSM 2031	Engineering Replacement Body Parts	15	Semester 2

Programme: MEng Computer Science - 4443

Term:	2020-2021 Academic Session (202021)
Area title:	4443-4 - Computer Science Part 4

Compulsory Modules

You must complete the following modules:

Module	Module Title	Credit	Core?	Semester/Term
ELEC 6200	Group Design Project	45	Yes	Semester 1

Optional Modules

You must choose from the following modules:

Module		Credit	Semester/Term
Rule OPTIONAL	Select 5 modules		
Rule SEMESTER 1	Select 1 Semester 1 module		
COMP 6203	Intelligent Agents	15	Semester 1
COMP 6204	Software Project Management and Secure Development	15	Semester 1
COMP 6210	Automated Software Verification	15	Semester 1
COMP 6224	Foundations of Cyber Security	15	Semester 1
COMP 6234	Data Visualisation	15	Semester 1
Rule SEMESTER 2	Select 4 Semester 2 modules		
COMP 6201	E-Business Strategy	15	Semester 2
COMP 6202	Evolution of Complexity	15	Semester 2
COMP 6207	Algorithmic Game Theory	15	Semester 2
COMP 6208	Advanced Machine Learning	15	Semester 2
COMP 6209	Automated Code Generation	15	Semester 2
COMP 6211	Biometrics	15	Semester 2

COMP 6212	Computational Finance	15	Semester 2
COMP 6214	Open Data Innovation	15	Semester 2
COMP 6215	Semantic Web Technologies	15	Semester 2
COMP 6228	Individual Research Project	15	Semester 2
COMP 6236	Software Security	15	Semester 2
COMP 6237	Data Mining	15	Semester 2
COMP 6241	Advanced Topics in Human-Systems Interaction	15	Semester 2
COMP 6247	Reinforcement and Online Learning	15	Semester 2
COMP 6248	Deep Learning	15	Semester 2
COMP 6250	Social Media and Network Science	15	Semester 2
ELEC 6212	Biologically Inspired Robotics	15	Semester 2
ELEC 6213	Image Processing	15	Semester 2
ELEC 6242	Cryptography	15	Semester 2
ELEC 6245	Wireless Networks	15	Semester 2

4444 MEng Computer Science with Artificial Intelligence

Programme:	MEng Computer Science - 4443
Term:	2020-2021 Academic Session (202021)
Area title:	4443-1 - Computer Science Part 1

Compulsory Modules

You must complete the following modules:

Module	Module Title	Credit	Core?	Semester/Term
COMP 1201	Algorithmics	15	Yes	Semester 2
COMP 1202	Programming I	15	Yes	Semester 1
COMP 1203	Computer Systems I	15	Yes	Semester 1
COMP 1204	Data Management	15	Yes	Semester 2

COMP 1205	Professional Development	15	Yes	Semester 1
COMP 1206	Programming 2	15	Yes	Semester 2
COMP 1215	Foundations of Comp Sci	15	Yes	Semester 1
COMP 1216	Software Modelling & Design	15	Yes	Semester 2
ELEC 1028	TT Personal Tutorial	0	Yes	Full Academic Year

Programme:	MEng Computer Science - 4443
Term:	2020-2021 Academic Session (202021)
Area title:	4443-2 - Computer Science Part 2

Compulsory Modules

You must complete the following modules:

Module	Module Title	Credit	Core?	Semester/Term
COMP 2207	Distributed Systems & Networks	15	No	Semester 2
COMP 2208	Intelligent Systems	15	No	Semester 1
COMP 2209	Programming III	15	No	Semester 1
COMP 2210	Theory of Computing	15	No	Semester 1
COMP 2211	Software Eng Group Project	15	No	Semester 2
COMP 2212	Prog Language Concepts	15	No	Semester 2
COMP 2213	Interaction Design	15	No	Semester 1

Optional Modules

You must choose from the following modules:

Module		Credit	Semester/Term
Rule OPTIONAL	Select 1 Semester 2 module		
Rule SET 1	Select 0 to 1 modules		
COMP 2214	Advanced Software Modelling and Design	15	Semester 2

COMP 2215	Computer Systems II	15	Semester 2
COMP 2216	Principles of Cyber Security	15	Semester 2
Rule SET 2	Select 0 to 1 modules		
ANTH 2001	Cosmology, Ritual and Belief	15	Semester 2
CHEM 2012	Change and Equilibrium	15	Semester 2
CRIM 1004	Criminal Justice Studies	15	Semester 2
LANG XX15	Language Module	15	Show Electives
PHYS 2015	Introduction to Energy in The Environment	15	Semester 2
SOC1 2003	Gender & Society	15	Semester 2
UOSM 2017	Intercultural Communication in a Global World	15	Semester 2
UOSM 2031	Engineering Replacement Body Parts	15	Semester 2

Programme: MEng Computer Science - 4443

Term: 2020-2021 Academic Session (202021)

Area title: 4444-3 - Artificial Intelligence Part 3

Compulsory Modules

You must complete the following modules:

Module	Module Title	Credit	Core?	Semester/Term
COMP 3200	Part III Individual Project	45	Yes	Full Academic Year
COMP 3219	Engineering Management & Law	15	Yes	Semester 1

Optional Modules

You must choose from the following modules:

Module		Credit	Semester/Term
Rule OPTIONAL	Select 4 modules Two modules in Semester 1 and two		

	modules in Semester 2		
Rule SET 1	Select 2 to 4 modules Maximum of one machine learning module (COMP3222 or COMP3223)		
COMP 3204	Computer Vision	15	Semester 1
COMP 3212	Computational Biology	15	Semester 2
COMP 3222	Machine Learning Technologies	15	Semester 1
COMP 3223	Foundations of Machine Learning	15	Semester 1
COMP 3225	Natural Language Processing	15	Semester 2
ELEC 3201	Robotic Systems	15	Semester 1
Rule SET 2	Select 0 to 2 modules		
COMP 3207	Cloud Application Development	15	Semester 1
COMP 3208	Social Computing Techniques	15	Semester 2
COMP 3210	Advanced Computer Networks	15	Semester 2
COMP 3211	Advanced Databases	15	Semester 2
COMP 3215	Real-Time Computing and Embedded Systems	15	Semester 1
COMP 3217	Security of Cyber Physical Systems	15	Semester 2
COMP 3218	Game Design and Development	15	Semester 1
COMP 3220	Web Infrastructure	15	Semester 1
COMP 3226	Web and Cloud Based Security	15	Semester 1
ELEC 3219	Advanced Computer Architecture	15	Semester 2
Rule SET 3	Select 0 to 2 modules		

ANTH 2001	Cosmology, Ritual and Belief	15	Semester 2
HUMA 2013	How the Arts Work: A Practical Introduction to Cultural Econ	15	Semester 1
LANG XX15	Language Module	15	Show Electives
MATH 3081	Operational Research	15	Semester 1
MATH 3082	Optimisation	15	Semester 2
PHYS 2015	Introduction to Energy in The Environment	15	Semester 2
SOCI 2003	Gender & Society	15	Semester 2
UOSM 2004	Global Health	15	Semester 1
UOSM 2017	Intercultural Communication in a Global World	15	Semester 2
UOSM 2031	Engineering Replacement Body Parts	15	Semester 2

Programme:	MEng Computer Science - 4443
Term:	2020-2021 Academic Session (202021)
Area title:	4444-4 - Artificial Intelligence Part 4

Compulsory Modules

You must complete the following modules:

Module	Module Title	Credit	Core?	Semester/Term
ELEC 6200	Group Design Project	45	Yes	Semester 1

Optional Modules

You must choose from the following modules:

Module		Credit	Semester/Term
Rule OPTIONAL	Select 5 modules One module in Semester 1 and four modules in Semester 2		
Rule SET 1	Select 2 to 5 modules		

COMP 6202	Evolution of Complexity	15	Semester 2
COMP 6203	Intelligent Agents	15	Semester 1
COMP 6207	Algorithmic Game Theory	15	Semester 2
COMP 6208	Advanced Machine Learning	15	Semester 2
COMP 6211	Biometrics	15	Semester 2
COMP 6212	Computational Finance	15	Semester 2
COMP 6215	Semantic Web Technologies	15	Semester 2
COMP 6228	Individual Research Project	15	Semester 2
COMP 6237	Data Mining	15	Semester 2
ELEC 6212	Biologically Inspired Robotics	15	Semester 2
ELEC 6213	Image Processing	15	Semester 2
Rule SET 2	Select 0 to 3 modules		
COMP 6201	E-Business Strategy	15	Semester 2
COMP 6204	Software Project Management and Secure Development	15	Semester 1
COMP 6209	Automated Code Generation	15	Semester 2
COMP 6210	Automated Software Verification	15	Semester 1
COMP 6214	Open Data Innovation	15	Semester 2
COMP 6234	Data Visualisation	15	Semester 1
COMP 6236	Software Security	15	Semester 2
COMP 6241	Advanced Topics in Human-Systems Interaction	15	Semester 2
COMP 6247	Reinforcement and Online Learning	15	Semester 2
COMP 6248	Deep Learning	15	Semester 2
COMP 6250	Social Media and Network Science	15	Semester 2
ELEC 6242	Cryptography	15	Semester 2

ELEC 6245	Wireless Networks	15	Semester 2
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7006 MEng Computer Science with Cyber Security

Programme:	MEng Comp Sci with Cyber Sec - 7006
Term:	2020-2021 Academic Session (202021)
Area title:	7006-1 - MEng Comp Sci w/ Cyber Sec P1

Compulsory Modules

You must complete the following modules:

Module	Module Title	Credit	Core?	Semester/Term
COMP 1201	Algorithmics	15	Yes	Semester 2
COMP 1202	Programming I	15	Yes	Semester 1
COMP 1203	Computer Systems I	15	Yes	Semester 1
COMP 1204	Data Management	15	Yes	Semester 2
COMP 1205	Professional Development	15	Yes	Semester 1
COMP 1206	Programming 2	15	Yes	Semester 2
COMP 1215	Foundations of Comp Sci	15	Yes	Semester 1
COMP 1216	Software Modelling & Design	15	Yes	Semester 2
ELEC 1028	TT Personal Tutorial	0	No	Full Academic Year

Programme:	MEng Comp Sci with Cyber Sec - 7006
Term:	2020-2021 Academic Session (202021)
Area title:	7006-2 - MEng Comp Sci w/ Cyber Sec P2

Compulsory Modules

You must complete the following modules:

Module	Module Title	Credit	Core?	Semester/Term
COMP 2207	Distributed Systems & Networks	15	No	Semester 2
COMP 2208	Intelligent Systems	15	No	Semester 1
COMP 2209	Programming III	15	No	Semester 1

COMP 2210	Theory of Computing	15	No	Semester 1
COMP 2211	Software Eng Group Project	15	No	Semester 2
COMP 2213	Interaction Design	15	No	Semester 1
COMP 2215	Computer Systems II	15	No	Semester 2
COMP 2216	Principles of Cyber Security	15	No	Semester 2

Programme:	MEng Comp Sci with Cyber Sec - 7006
Term:	2020-2021 Academic Session (202021)
Area title:	7006-3 - MEng Comp Sci w/ Cyber Sec P3

Compulsory Modules

You must complete the following modules:

Module	Module Title	Credit	Core?	Semester/Term
COMP 3200	Part III Individual Project	45	Yes	Full Academic Year
COMP 3217	Security of Cyber Physical Syst	15	No	Semester 2
COMP 3219	Engineering Management & Law	15	Yes	Semester 1
COMP 3226	Web and Cloud Based Security	15	No	Semester 1

Optional Modules

You must choose from the following modules:

Module		Credit	Semester/Term
Rule OPTIONAL	Select 2 modules One module in Semester 1 and one module in Semester 2		
Rule SET 1	Select 1 to 2 modules		
COMP 3210	Advanced Computer Networks	15	Semester 2
COMP 3215	Real-Time Computing and Embedded Systems	15	Semester 1

Rule SET 2	Select 0 to 1 modules		
COMP 3204	Computer Vision	15	Semester 1
COMP 3207	Cloud Application Development	15	Semester 1
COMP 3208	Social Computing Techniques	15	Semester 2
COMP 3211	Advanced Databases	15	Semester 2
COMP 3212	Computational Biology	15	Semester 2
COMP 3218	Game Design and Development	15	Semester 1
COMP 3222	Machine Learning Technologies	15	Semester 1
COMP 3223	Foundations of Machine Learning	15	Semester 1
COMP 3225	Natural Language Processing	15	Semester 2
ELEC 3201	Robotic Systems	15	Semester 1
ELEC 3219	Advanced Computer Architecture	15	Semester 2
Rule SET 3	Select 0 to 1 modules		
ANTH 2001	Cosmology, Ritual and Belief	15	Semester 2
GEOG 3048	Desert Landscapes: Modelling and Measuring Aeolian Systems	15	Semester 1
HUMA 2013	How the Arts Work: A Practical Introduction to Cultural Econ	15	Semester 1
LANG XX15	Language Module	15	Show Electives
MATH 3081	Operational Research	15	Semester 1
MATH 3082	Optimisation	15	Semester 2
PHYS 2015	Introduction to Energy in The Environment	15	Semester 2
SOC1 2003	Gender & Society	15	Semester 2
UOSM 2004	Global Health	15	Semester 1
UOSM 2017	Intercultural Communication in a Global World	15	Semester 2

UOSM 2022	Social Enterprise	15	Semester 1
UOSM 2031	Engineering Replacement Body Parts	15	Semester 2

Programme:	MEng Comp Sci with Cyber Sec - 7006
Term:	2020-2021 Academic Session (202021)
Area title:	7006-4 - MEng Comp Sci w/ Cyber Sec P4

Compulsory Modules

You must complete the following modules:

Module	Module Title	Credit	Core?	Semester/Term
COMP 6236	Software Security	15	No	Semester 2
ELEC 6200	Group Design Project	45	Yes	Semester 1

Optional Modules

You must choose from the following modules:

Module		Credit	Semester/Term
Rule OPTIONAL	Select 4 modules One module in Semester 1 and three modules in Semester 2		
Rule SET 1	Select 2 to 4 modules		
COMP 6204	Software Project Management and Secure Development	15	Semester 1
COMP 6211	Biometrics	15	Semester 2
CRIM 6008	Cyber Crime, Insecurity and the Dark Web	15	Semester 2
ELEC 6242	Cryptography	15	Semester 2
Rule SET 2	Select 0 to 2 modules		

COMP 6201	E-Business Strategy	15	Semester 2
COMP 6202	Evolution of Complexity	15	Semester 2
COMP 6203	Intelligent Agents	15	Semester 1
COMP 6207	Algorithmic Game Theory	15	Semester 2
COMP 6208	Advanced Machine Learning	15	Semester 2
COMP 6209	Automated Code Generation	15	Semester 2
COMP 6210	Automated Software Verification	15	Semester 1
COMP 6212	Computational Finance	15	Semester 2
COMP 6214	Open Data Innovation	15	Semester 2
COMP 6215	Semantic Web Technologies	15	Semester 2
COMP 6228	Individual Research Project	15	Semester 2
COMP 6234	Data Visualisation	15	Semester 1
COMP 6237	Data Mining	15	Semester 2
COMP 6247	Reinforcement and Online Learning	15	Semester 2
COMP 6248	Deep Learning	15	Semester 2
COMP 6250	Social Media and Network Science	15	Semester 2
ELEC 6212	Biologically Inspired Robotics	15	Semester 2
ELEC 6213	Image Processing	15	Semester 2
ELEC 6245	Wireless Networks	15	Semester 2