Computer Science BSc (Hons) options 2017-2018

If you wish to take an external unit which is not listed on your programme course unit list (such as, for example, from University College) you must get permission from your Year Tutor. This applies for every year of your programme. If your choices do not meet the School’s course unit and theme requirements you will be contacted and be required to change your choices.

Level 1 - compulsory units
All of the units in this pool are mandatory.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
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<tbody>
<tr>
<td>COMP10120</td>
<td>First Year Team Project</td>
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<tr>
<td>COMP11212</td>
<td>Mathematical Techniques for Computer Science</td>
<td>20</td>
</tr>
<tr>
<td>COMP11211</td>
<td>Fundamentals of Computation</td>
<td>10</td>
</tr>
<tr>
<td>COMP12112</td>
<td>Fundamentals of Computer Engineering</td>
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</tr>
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<td>COMP14112</td>
<td>Fundamentals of Artificial Intelligence</td>
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<tr>
<td>COMP15111</td>
<td>Fundamentals of Computer Architecture</td>
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<tr>
<td>COMP16121</td>
<td>Object Oriented Programming with Java 1</td>
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<tr>
<td>COMP16212</td>
<td>Object Oriented Programming with Java 2</td>
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<tr>
<td>COMP18112</td>
<td>Fundamentals of Distributed Systems</td>
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Level 2 options

MANDATORY UNITS - 60 CREDITS
OPTIONAL UNITS - 60 CREDITS

From the optional lists you must choose 20 credits from semester one and 40 credits from semester two.

Level 2 - compulsory units
All of the units in this pool are mandatory.

<table>
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<th>Code</th>
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<tbody>
<tr>
<td>COMP23111</td>
<td>Fundamentals of Databases</td>
<td>10</td>
<td>Web and Distributed Systems</td>
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<td>COMP23311</td>
<td>Software Engineering 1</td>
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<td>COMP23412</td>
<td>Software Engineering 2</td>
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<td>Operating Systems</td>
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<td>COMP26120</td>
<td>Algorithms and Imperative Programming</td>
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<td>Computer Languages</td>
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Level 2 - option pool 1
From this option pool choose a maximum of 20 credits and a minimum of 10 credits.

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<tbody>
<tr>
<td>COMP21111</td>
<td>Logic and Modelling</td>
<td>10</td>
<td>Rigorous Development</td>
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<tr>
<td>COMP22111</td>
<td>Processor Microarchitecture</td>
<td>10</td>
<td>System-on-Chip</td>
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<tr>
<td>COMP24111</td>
<td>Machine Learning and Optimisation</td>
<td>10</td>
<td>Learning and Search in Artificial Intelligence</td>
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<td>COMP28411</td>
<td>Computer Networks</td>
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<td>Mobile Computing and Networks</td>
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Level 2 - option pool 2
From this option pool choose a maximum of 40 credits and a minimum of 30 credits.

<table>
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<tbody>
<tr>
<td>COMP22712</td>
<td>Microcontrollers</td>
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<td>COMP24412</td>
<td>Symbolic AI</td>
<td>10</td>
<td>Natural Language, Representation and Reasoning</td>
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<td>COMP25212</td>
<td>System Architecture</td>
<td>10</td>
<td>Computer Architecture</td>
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<tr>
<td>COMP27112</td>
<td>Computer Graphics and Image Processing</td>
<td>10</td>
<td>Visual Computing</td>
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<tr>
<td>COMP28112</td>
<td>Distributed Computing</td>
<td>10</td>
<td>Web and Distributed Systems</td>
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<tr>
<td>COMP28512</td>
<td>Mobile Systems</td>
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<td>Mobile Computing and Networks</td>
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Level 2 - option pool 3
From this option pool choose a maximum of 10 credits and a minimum of 0 credits.
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<td>Fundamentals of Management</td>
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<td>BMAN10621B</td>
<td>Fundamentals of Financial Reporting</td>
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<td>BMAN20811</td>
<td>Managing Business Operations</td>
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<td>BMAN20821</td>
<td>New Product Development and Innovation</td>
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<td>BMAN21061</td>
<td>Introduction to Management Information Systems</td>
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<td>Science and the Modern World</td>
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<td>UCIL20021</td>
<td>Leadership in Action</td>
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<td>UCIL20031</td>
<td>Leadership in Action Online Unit</td>
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<td>UCIL20181</td>
<td>Science, the Media and the Public</td>
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<td>UCIL20331</td>
<td>From Cholera to Aids: A Global History of Epidemics</td>
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<td>UCIL21301</td>
<td>Communicating with Confidence</td>
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<td>UCIL22301</td>
<td>Curating Culture</td>
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<td>UCIL22501</td>
<td>Global Citizenship and Sustainability</td>
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**Level 2 - option pool 4**

From this option pool choose a maximum of 10 credits and a minimum of 0 credits.

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<td>BMAN10252</td>
<td>Fundamentals of Technological Change</td>
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<td>BMAN10552</td>
<td>Fundamentals of Finance</td>
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<td>BMAN10612</td>
<td>Business Economics</td>
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<td>BMAN10632</td>
<td>Fundamentals of Accounting</td>
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<td>BMAN20242</td>
<td>Introduction to Corporate Finance &amp; Financial Instruments</td>
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<td>BMAN20792</td>
<td>Technology Strategy &amp; Innovation I</td>
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<td>BMAN20832</td>
<td>Marketing</td>
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<td>BMAN20842</td>
<td>Organisations and Emploment</td>
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<td>BMAN21012</td>
<td>Global Contexts of Business and Management</td>
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<td>Leadership in Action</td>
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<td>Leadership in Action Online Unit</td>
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<td>UCIL20092</td>
<td>The Crisis of Nature: Issues in Environmental History</td>
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<td>UCIL20102</td>
<td>Multilingual Manchester</td>
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<td>UCIL20782</td>
<td>The Information Age</td>
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<td>UCIL20882</td>
<td>An Introduction to Current Topics in Biology</td>
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<td>UCIL21002</td>
<td>Leadership of Learning</td>
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<td>UCIL21102</td>
<td>Diverse Britain in a Globalising World</td>
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<td>Bioethics: Contemporary Issues in Science and Biomedicine</td>
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<td>Communicating with Confidence</td>
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<td>UCIL21402</td>
<td>Innovation for a Sustainable Society</td>
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<td>UCIL21802</td>
<td>Body, Health and Well-Being</td>
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<td>UCIL21902</td>
<td>Humanitarian Challenges in an Unequal World</td>
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<td>UCIL24002</td>
<td>The Art of Enterprise</td>
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<td>The Digital Society</td>
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<tr>
<td>UCIL29002</td>
<td>Physics &amp; The Grand Challenges of Today</td>
<td>10</td>
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</table>

**Level 3 options**

MANDATORY UNITS - 40 CREDITS
OPTIONAL UNITS - 80 CREDITS

From the optional lists you must choose 40 credits from semester one and 40 credits from semester two.

**Level 3 - compulsory units**

All of the units in this pool are mandatory.

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<td>COMP30040</td>
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**Level 3 - option pool 1**

From this option pool choose a maximum of 40 credits and a minimum of 20 credits.

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<tbody>
<tr>
<td>COMP31111</td>
<td>Verified Development</td>
<td>10</td>
<td>Rigorous Development</td>
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<tr>
<td>COMP32211</td>
<td>Implementing System-on-Chip Designs</td>
<td>10</td>
<td>System-on-Chip</td>
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<tr>
<td>COMP33511</td>
<td>User Experience</td>
<td>10</td>
<td>Interactive Systems Design</td>
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<tr>
<td>COMP33711</td>
<td>Agile Software Engineering</td>
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<td>Agile Methods</td>
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**Level 3 - option pool 2**
From this option pool choose a maximum of 40 credits and a minimum of 20 credits.

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<tbody>
<tr>
<td>COMP33812</td>
<td>Software Evolution</td>
<td>10</td>
<td>Agile Methods</td>
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<td>COMP34412</td>
<td>Natural Language Systems</td>
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<td>Natural Language, Representation and Reasoning</td>
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<td>COMP35112</td>
<td>Chip Multiprocessors</td>
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<td>Computer Architecture</td>
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<td>COMP36212</td>
<td>Advanced Algorithms 2</td>
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<td>Programming and Algorithms</td>
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<td>COMP36512</td>
<td>Compilers</td>
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<td>COMP37212</td>
<td>Computer Vision</td>
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<td>Visual Computing</td>
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<tr>
<td>COMP32412</td>
<td>The Internet of Things: Architectures and Applications</td>
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<td>Web and Distributed Systems</td>
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**Level 3 - option pool 3**
From this option pool choose a maximum of 40 credits and a minimum of 0 credits.

<table>
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<tr>
<td>COMP34120</td>
<td>AI and Games</td>
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<td>Learning and Search in Artificial Intelligence</td>
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<tr>
<td>COMP38120</td>
<td>Documents, Services and Data on the Web</td>
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<td>Web and Distributed Systems</td>
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**Level 3 - option pool 4**
From this option pool choose a maximum of 20 credits and a minimum of 0 credits.

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<td>BMAN30010</td>
<td>Management and Technology</td>
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<td>BMAN30021</td>
<td>Marketing</td>
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<td>BMAN30022</td>
<td>Strategy</td>
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<td>Cases in Digital Transformation</td>
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<td>Project Organisations: Management &amp; Strategy</td>
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<td>BMAN30991</td>
<td>The International Management of Knowledge &amp; Technology</td>
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<td>Investment Economics and Innovation</td>
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<td>BMAN31752</td>
<td>Consumers and Markets</td>
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<td>BMAN31842</td>
<td>People Management and Change</td>
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<td>Tools and Techniques for Enterprise</td>
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<td>Enterprise Management for Computer Scientists</td>
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<td>MCEL30032</td>
<td>Managing Finance in Enterprises for Computer Scientists</td>
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<td>An Introduction to Current Topics in Biology</td>
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<td>Innovation for a Sustainable Society</td>
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<td>UCIL21802</td>
<td>Body, Health and Well-Being</td>
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<td>Curating Culture</td>
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<td>UCIL22501</td>
<td>Global Citizenship and Sustainability</td>
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<td>Madness and Society in the Modern Age</td>
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<td>UCIL32511</td>
<td>From Baker Street to CSI</td>
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<td>UCIL33201</td>
<td>Climate Change and Society</td>
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