

Cambridge MPhil in Machine Learning & Machine Intelligence
Indicative Outline Course Structure
 (Details may change)

Core Modules – taken by all students on the course.

<i>Code</i>	<i>Title</i>	<i>Weight</i>	<i>Term</i>
MLMI 1	Introduction to Machine Learning	Full	M
MLMI 2	Speech Recognition	Half	M
MLMI 3	Ethical Considerations in Machine Learning & Machine Intelligence	Full	M
4F10	Deep Learning & Structured Data	Full	M
4F13	Probabilistic Machine Learning	Full	M

Students also choose one of four tracks or specialist areas at the time of application: Speech and Language Processing; Computer Vision and Robotics; Machine Learning; Human-Computer Interaction.

Each of the tracks has its own set of core modules and a set of optional modules from which students will select one full or two half modules. Most modules appear in more than one track.

M = Michaelmas term; L = Lent term

Speech and Language Processing Track

Speech and Language Track Core Modules:

<i>Code</i>	<i>Title</i>	<i>Weight</i>	<i>Term</i>
MLMI 14	Spoken Language Generation, Processing & Recognition	Full	L
MLMI 8	Neural Machine Translation and Dialogue Systems	Half	L

Optional Core Modules: (students choose one full module or equivalent)

<i>Code</i>	<i>Title</i>	<i>Weight</i>	<i>Term</i>
MLMI 4	Advanced Machine Learning	Full	L
MLMI 7	Reinforcement Learning and Decision Making	Half	L
MLMI 10	Designing Intelligent Interactive Systems	Half	L
MLMI 13/L90	Natural Language Processing	Full	M
4M17	Practical Optimisation	Full	M

Computer Vision and Robotics Track

Computer Vision and Robotics Track Core Modules:

<i>Code</i>	<i>Title</i>	<i>Weight</i>	<i>Term</i>
4F12	Computer Vision	Full	M
MLMI 15	Robotics	Half	L

Optional Core Modules (students choose one full module or equivalent):

<i>Code</i>	<i>Title</i>	<i>Weight</i>	<i>Term</i>
MLMI 4	Advanced Machine Learning	Full	L
MLMI 7	Reinforcement Learning and Decision Making	Half	L
MLMI 8	Neural Machine Translation and Dialogue Systems	Half	L
MLMI 10	Designing Intelligent Interactive Systems	Half	L
MLMI 13/L90	Natural Language Processing	Full	M
MLMI 14	Spoken Language Generation, Processing & Recognition	Half	L
4M17	Practical Optimisation	Full	M

Machine Learning Track

Machine Learning Track Core Modules:

<i>Code</i>	<i>Title</i>	<i>Weight</i>	<i>Term</i>
MLMI 4	Advanced Machine Learning	Full	L
MLMI 7	Reinforcement Learning and Decision Making	Half	L

Optional Core Modules (students choose one full module or equivalent):

<i>Code</i>	<i>Title</i>	<i>Weight</i>	<i>Term</i>
L48	Machine Learning and the Physical World	Full	M
MLMI 8	Neural Machine Translation and Dialogue Systems	Half	L
MLMI 10	Designing Intelligent Interactive Systems	Half	L
MLMI 13/L90	Natural Language Processing	Full	M
MLMI 14	Spoken Language Generation and Processing	Half	L
4M17	Practical Optimisation	Full	M
4M24	Computational Statistics & Machine Learning	Full	M
L65	Geometric Deep Learning	Full	L

Human-Computer Interface Track

Human-Computer Interface Track Core Modules

<i>Code</i>	<i>Title</i>	<i>Weight</i>	<i>Term</i>
MLMI 16	Advanced Human-Computer Interaction	Full	L
MLMI 10	Designing Intelligent Interactive Systems	Half	L

Optional Core Modules (students choose one full module or equivalent):

<i>Code</i>	<i>Title</i>	<i>Weight</i>	<i>Term</i>
MLMI 4	Advanced Machine Learning	Full	L
MLMI 7	Reinforcement Learning and Decision Making	Half	L
MLMI 8	Neural Machine Translation and Dialogue Systems	Half	L
MLMI 13/L90	Natural Language Processing	Full	M
MLMI 14	Spoken Language Generation and Processing	Half	L
4M17	Practical Optimisation	Full	M
4M21	Software Engineering & Design	Full	L

Students from all tracks will also select one elective module from across the MPhil in Machine Learning and Machine Intelligence and the current Cambridge University Engineering Department 4th year undergraduate syllabus. These will be advised at the beginning of the academic year.

From the end of the Lent term, students will undertake a research project leading to a dissertation.

Updated: 31/10/2023