

Cambridge MPhil in Machine Learning and Machine Intelligence: Planned Course Structure for 2022-2023

(Some details may change).

For the 2022-2023 MPhil MLMI syllabus students must choose one of four tracks: Speech and Language Processing; Computer Vision and Robotics; Machine Learning; Human-Computer Interface. Each track will include a set of core modules.

Core Modules (common to all tracks)

<i>Code</i>	<i>Title</i>	<i>Weight</i>
MLMI 1	Introduction to Machine Learning	Full
MLMI 2	Speech Recognition	Half
MLMI 12/4F12	Computer Vision	Full
4F10	Deep Learning & Structured Data	Full
4F13	Probabilistic Machine Learning	Full

Each track will include a set of compulsory Additional Core Modules and a list of Optional Core Modules from which students will select one full module or its equivalent (two half modules).

Speech and Language Processing Track

Additional Core Modules

<i>Code</i>	<i>Title</i>	<i>Weight</i>
MLMI 2+	Advanced Speech Recognition (TBC)	Half
MLMI 8	Neural Machine Translation and Dialogue Systems	Half
MLMI 14	Spoken Language Generation and Processing	Half

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

<i>Code</i>	<i>Title</i>	<i>Weight</i>
MLMI 4	Advanced Machine Learning	Full
MLMI 7	Reinforcement Learning and Decision Making	Half
MLMI 10	Intelligent Interactive Design	Half
MLMI 13	Natural Language Processing	Full
4M17	Practical Optimisation	Full
4M26	Algorithms and Data Structures	Full

Computer Vision and Robotics Track

Additional Core Modules

<i>Code</i>	<i>Title</i>	<i>Weight</i>
MLMI 7	Reinforcement Learning and Decision Making	Half
4M25	Advanced Robotics	Full

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

<i>Code</i>	<i>Title</i>	<i>Weight</i>
MLMI 2 +	Advanced Speech Recognition (TBC)	Half
MLMI 4	Advanced Machine Learning	Full
MLMI 8	Neural Machine Translation & Dialogue Systems	Half
MLMI 10	Intelligent Interactive Design	Half
MLMI 13/L90	Natural Language Processing	Full
MLMI 14	Spoken Language Generation & Processing	Half
4M17	Practical Optimisation	Full
4M20	Robotics	Full
4M26	Algorithms and Data Structures	Full

Machine Learning Track

Additional Core Modules

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

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

<i>Code</i>	<i>Title</i>	<i>Weight</i>
L48	Machine Learning and the Physical World	Full
MLMI 2 +	Advanced Speech Recognition (TBC)	Half
MLMI 8	Neural Machine Translation and Dialogue Systems	Half
MLMI 10	Intelligent Interactive Design	Half
MLMI 13/L90	Natural Language Processing	Full
MLMI 14	Spoken Language Generation and Processing	Half
4M17	Practical Optimisation	Full
4M26	Algorithms and Data Structures	Full

Human-Computer Interface Track

Additional Core Modules

<i>Code</i>	<i>Title</i>	<i>Weight</i>
MLMI 10	Intelligent Interactive Design	Half
To be confirmed	Another full module on Human-Computer Interface – to be confirmed.	Full

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

<i>Code</i>	<i>Title</i>	<i>Weight</i>
MLMI 2 +	Advanced Speech Recognition (TBC)	Half
MLMI 4	Advanced Machine Learning	Full
MLMI 7	Reinforcement Learning and Decision Making	Half
MLMI 8	Neural Machine Translation and Dialogue Systems	Half
MLMI 13/L90	Natural Language Processing	Full
MLMI 14	Spoken Language Generation and Processing	Half
4M17	Practical Optimisation	Full
4M26	Algorithms and Data Structures	Full

In addition, students from all tracks will 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.