

**AY2022-23 CURRICULUM FOR MECHANICAL ENGINEERING- MAINSTREAM
WITH CN YANG SCHOLARS PROGRAMME
(FIRST YEAR ADMISSION)**

Last Updated : 21-Apr-22

SUMMARY OF ACADEMIC UNIT REQUIREMENT							
Year of Study	School Core	CNYSP-Core	MPE	CC	FC	BDE	Total AU
1	11	27	0	5	0	0	43
2	18	10	0	8	0	3	39
3	25	0	0	0	8	0	33
4	15	0	6	0	0	0	21
Total	69	37	6	13	8	3	136

YEAR 1 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CY1001	Cell	CNY-Core	3	CNYSP Courses
CY1101	Molecule	CNY-Core	4	
CY1308	Physics	CNY-Core	3	
CY1500	Introduction to Research	CNY-Core	2	
CY1601	Mathematics I	CNY-Core	4	
EG1001	Engineers In Society	C	2	
CC0005	Healthy Living & Mental Wellbeing in an Aging Society	CC	3	
			21	

YEAR 1 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CY1007	Climate Change	CNY-Core	3	CNYSP Courses
CY1602	Mathematics II	CNY-Core	4	
MA1001	Dynamics	C	3	
MA1008	Introduction to Computational Thinking	C	3	
MA2001	Mechanics of Materials	C	3	
CC0002	Navigating the Digital World	CC	2	
			18	

YEAR 1 SPECIAL SEMESTER				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CY2003	Research Attachment 3	CNY-Core	4	CNYSP Course
	Overseas Learning Trip			
			4	

YEAR 2 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CY0002	Ethics	CNY-Core	3	CNYSP Course
CY1307	Quantum	BDE	3	Students can choose to opt out and replace with any other BDE course (3 AU)
MA2002	Theory of Mechanism	C	3	
MA2003	Intro to Thermo-fluids	C	3	
CC0007	Science & Technology for Humanity	CC	3	
			15	

YEAR 2 SEMESTER 2

Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CY0001	Writing Across the Disciplines	CNY-Core	3	CNYSP Course
CY2001	Research Attachment 1	CNY-Core	4	CNYSP Course 2-semester long, course registered only in Sem 2 (similar to URECA)
MA2004	Manufacturing Processes	C	3	
MA2005	Engineering Graphics	C	3	
MA2006	Engineering Mathematics	C	3	
MA2071	Laboratory Experiments (ME)	C	1	
MA2079	Engineering Innovation and Design	C	2	
CC0006	Sustainability: Society, Economy & Environment	CC	3	
ML0004	Career and Entrepreneurial Development for the Future World	CC	2	
			24	

YEAR 3 SEMESTER 1

Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
MA2007	Thermodynamics	C	3	
MA2009	Electrical Circuits & Electronics Device	C	3	
MA3001	Machine Element Design	C	3	
MA3002	Solid Mechanics & Vibrations	C	3	
MA3004	Mathematical Methods in Engineering	C	3	
MA3071	Engineering Experiments (ME)	C	1	
			16	

YEAR 3 SEMESTER 2

Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
MA3003	Heat Transfer	C	3	
MA3005	Control Theory	C	3	
MA3006	Fluid Mechanics	C	3	
MA0218	Introduction to Data Science and Artificial Intelligence	FC	3	
			12	

YEAR 3 SPECIAL SEMESTER

Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
MA3075	Professional Attachment	FC	5	
			5	

YEAR 4 SEMESTER 1

Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
MA4001	Engineering Design	C	4	
MA4002	Fluid Dynamics	C	3	
MAXXXX	Major PE #1	MPE	3	
MAXXXX	Major PE #2	MPE	3	
			13	

YEAR 4 SEMESTER 2

Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
MA4211	CNYSP Overseas Final Year Project	C	8	CNYSP Course
			8	

Total AU for Graduation:

136

**AY2022-23 CURRICULUM FOR MECHANICAL ENGINEERING- DESIGN STREAM
WITH CN YANG SCHOLARS PROGRAMME
(FIRST YEAR ADMISSION)**

Last Updated : 20-Jul-22

SUMMARY OF ACADEMIC UNIT REQUIREMENT							
Year of Study	School Core	CNYSP-Core	MPE	CC	FC	BDE	Total AU
1	11	27	0	5	0	0	43
2	18	10	0	8	0	3	39
3	28	0	0	0	8	0	36
4	12	0	6	0	0	0	18
Total	69	37	6	13	8	3	136

YEAR 1 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CY1001	Cell	CNY-Core	3	CNYSP Courses
CY1101	Molecule	CNY-Core	4	
CY1308	Physics	CNY-Core	3	
CY1500	Introduction to Research	CNY-Core	2	
CY1601	Mathematics I	CNY-Core	4	
EG1001	Engineers In Society	C	2	
CC0005	Healthy Living & Mental Wellbeing in an Aging Society	CC	3	
			21	

YEAR 1 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CY1007	Climate Change	CNY-Core	3	CNYSP Courses
CY1602	Mathematics II	CNY-Core	4	
MA1001	Dynamics	C	3	
MA1008	Introduction to Computational Thinking	C	3	
MA2001	Mechanics of Materials	C	3	
CC0002	Navigating the Digital World	CC	2	
			18	

YEAR 1 SPECIAL SEMESTER				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CY2003	Research Attachment 3	CNY-Core	4	CNYSP Course
	Overseas Learning Trip			
			4	

YEAR 2 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CY0002	Ethics	CNY-Core	3	CNYSP Course
CY1307	Quantum	BDE	3	Students can choose to opt out and replace with any other BDE course (3 AU)
MA2003	Intro to Thermo-fluids	C	3	
MA2014	Product Presentation	C	3	
CC0007	Science & Technology for Humanity	CC	3	
			15	

YEAR 2 SEMESTER 2

Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CY0001	Writing Across the Disciplines	CNY-Core	3	CNYS Course
CY2001	Research Attachment 1	CNY-Core	4	CNYS Course 2-semester long, course registered only in Sem 2 (similar to URECA)
MA2002	Theory of Mechanism	C	3	
MA2006	Engineering Mathematics	C	3	
MA2013	Creative Thinking and Design	C	3	
MA2071	Laboratory Experiments (ME)	C	1	
MA2079	Engineering Innovation and Design	C	2	
CC0006	Sustainability: Society, Economy & Environment	CC	3	
ML0004	Career and Entrepreneurial Development for the Future World	CC	2	
			24	

YEAR 3 SEMESTER 1

Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
MA2004	Manufacturing Processes	C	3	
MA2005	Engineering Graphics	C	3	
MA2009	Electrical Circuits & Electronics Device	C	3	
MA3002	Solid Mechanics & Vibrations	C	3	
MA3010	Thermodynamics and Heat Transfer	C	3	
			15	

YEAR 3 SEMESTER 2

Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
MA3001	Machine Element Design	C	3	
MA3004	Mathematical Methods in Engineering	C	3	
MA3005	Control Theory	C	3	
MA3006	Fluid Mechanics	C	3	
MA3071	Engineering Experiments (ME)	C	1	
MA0218	Introduction to Data Science and Artificial Intelligence	FC	3	
			16	

YEAR 3 SPECIAL SEMESTER

Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
MA3075	Professional Attachment	FC	5	
			5	

YEAR 4 SEMESTER 1

Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
MA4001	Engineering Design	C	4	
MA48XX	Major PE #1	MPE	3	
MA48XX	Major PE #2	MPE	3	
			10	

YEAR 4 SEMESTER 2

Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
MA4211	CNYSP Overseas Final Year Project	C	8	
			8	

Total AU for Graduation: **136**

**AY2022-23 CURRICULUM FOR MECHANICAL ENGINEERING- ROBOTICS AND MECHATRONICS STREAM
WITH CN YANG SCHOLARS PROGRAMME
(FIRST YEAR ADMISSION)**

Last Updated : 20-Jul-22

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CY1001	Cell	CNY-Core	3	CNYS-SP Courses
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CY1308	Physics	CNY-Core	3	
CY1500	Introduction to Research	CNY-Core	2	
CY1601	Mathematics I	CNY-Core	4	
EG1001	Engineers In Society	C	2	
CC0005	Healthy Living & Mental Wellbeing in an Aging Society	CC	3	
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YEAR 1 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CY1007	Climate Change	CNY-Core	3	CNYS-SP Courses
CY1602	Mathematics II	CNY-Core	4	
MA1001	Dynamics	C	3	
MA1008	Introduction to Computational Thinking	C	3	
MA2001	Mechanics of Materials	C	3	
CC0002	Navigating the Digital World	CC	2	
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YEAR 1 SPECIAL SEMESTER				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CY2003	Research Attachment 3	CNY-Core	4	CNYS-SP Course
	Overseas Learning Trip			
			4	

YEAR 2 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CY0002	Ethics	CNY-Core	3	CNYS-SP Course
CY1307	Quantum	BDE	3	Students can choose to opt out and replace with any other BDE course (3 AU)
MA2003	Intro to Thermo-fluids	C	3	
MA2012	Introduction to Mechatronics Systems Design	C	3	
CC0007	Science & Technology for Humanity	CC	3	
			15	

YEAR 2 SEMESTER 2

Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CY0001	Writing Across the Disciplines	CNY-Core	3	CNYS Course
CY2001	Research Attachment 1	CNY-Core	4	CNYS Course 2-semester long, course registered only in Sem 2 (similar to URECA)
MA2002	Theory of Mechanism	C	3	
MA2006	Engineering Mathematics	C	3	
MA2011	Mechatronics System Interfacing	C	3	
MA2071	Laboratory Experiments (ME)	C	1	
MA2079	Engineering Innovation and Design	C	2	
CC0006	Sustainability: Society, Economy & Environment	CC	3	
ML0004	Career and Entrepreneurial Development for the Future World	CC	2	
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YEAR 3 SEMESTER 1

Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
MA2004	Manufacturing Processes	C	3	
MA2005	Engineering Graphics	C	3	
MA2009	Electrical Circuits & Electronics Device	C	3	
MA3002	Solid Mechanics & Vibrations	C	3	
MA3010	Thermodynamics and Heat Transfer	C	3	
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YEAR 3 SEMESTER 2

Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
MA3001	Machine Element Design	C	3	
MA3004	Mathematical Methods in Engineering	C	3	
MA3005	Control Theory	C	3	
MA3006	Fluid Mechanics	C	3	
MA3071	Engineering Experiments (ME)	C	1	
MA0218	Introduction to Data Science and Artificial Intelligence	FC	3	
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YEAR 3 SPECIAL SEMESTER

Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
MA3075	Professional Attachment	FC	5	
			5	

YEAR 4 SEMESTER 1

Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
MA4211	CNYS Overseas Final Year Project	C	8	CNYS Course
			8	

YEAR 4 SEMESTER 2

Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
MA4012	Mechatronics Engineering Design	C	4	
MA48XX	Major PE #1	MPE	3	
MA48XX	Major PE #2	MPE	3	
			10	

Total AU for Graduation: **136**