DEGREE CHECKLIST FOR ASSOCIATE IN APPLIED SCIENCE AND BACHELOR OF TECHNOLOGY IN MECHANICAL ENGINEERING TECHNOLOGY For students entering the program Spring 2018 to Spring 2019.

ASSOCIATE DEGREE	COURSE	COURSE TITLE	PRE/CO REQUISITES	CREDITS
	ENG 1101	English Composition I (EC)	Prereq: CUNY Read, Write Proficiency	3 credits.
GENERAL EDUCATION REQUIRED AND FLEXIBLE	ENG 1121	English Composition II (EC)	Prereq: ENG 1101	3 credits.
COMMON CORE	MAT 1375 ²	Precalculus or higher (MQR)	Prereq: MAT 1275	4 credits.
(28 TO 30 CREDITS)	MAT 1475 ²	Calculus I (sw)	Prereq: MAT 1375	4 credits.
	PHYS 1433 ² or	General Physics I: Algebra Based (LPS, WI) or	Prereq or Coreq: MAT 1275 or equivalent	4 to 5
	PHYS 1441 ²	General Physics I: Calculus Based (LPS, WI)	Prereq or Coreq: MAT 1475 or equivalent	credits.
	PHYS 1434 ² or	*General Physics II: Algebra Based (sw, wi) or	Prereq: PHYS 1433	4 to 5
At least 1 course designated WI is	PHYS 1442 ²	*General Physics II: Calculus Based (sw, wi)	Prereq: PHYS 1441	credits.
required from the Gen Ed Flexible Common Core.		*Flexible Common Core Course: WCGI, USED, IS, CE		3 credits.
common core.		*Flexible Common Core Course: WCGI, USED, IS, CE		3 credits.
	MECH 1101	Manufacturing Processes Laboratory		1 credit.
PROGRAM-SPECIFIC Degree requirements (36 credits)	MECH 1201	Computer-Aided Manufacturing Systems	Prereq: IND 1112, MECH 1101, Prereq or Coreq: MAT 1275 or higher	3 credits.
	MECH 1222	Computer-Aided Engineering Graphics	Prereq: IND 1112, Prereq or Coreq: MAT 1275 or higher	2 credits.
	MECH 1233	Statics and Strength of Materials	Prereq: IND 1112, MAT 1275 or higher	3 credits.
	MECH 1240	Computer Applications in Mechanical Engineering Technology	Prereq: IND 1112, MAT 1275 or higher	2 credits.
	MECH 2322	Engineering Materials (WI)	Prereq or Coreq: PHYS 1433 or PHYS 1441	3 credits.
	MECH 2333	Strength of Materials II	Prereq: IND 1112, MECH 1233 Prereq or Coreq: MAT 1375 or higher	3 credits.
	MECH 2335	Kinematics and Dynamics of Machines	Prereq: MECH 1222, 1233, 1240; Prereq or Coreq: MAT 1375 or higher	3 credits.
	MECH 2410 or MECH 2900	Machine Design or Internship in Mechanical Engineering Technology	Prereq: MAT 1375 or higher, IND 2304, Prereq or Coreq: MECH 2333, 2335 Prereq: MECH 1201, 1222, 1240	4 credits.
	MECH 2426	Materials Testing Laboratory	Prereq: MECH 1233, 1240 Prereq or Coreq: MAT 1475 or higher, MECH 2333	1 credit.
Double Duty ² Specific courses listed	MECH 2430	Thermodynamics	Prereq: MECH 1233, Prereq or Coreq: MAT 1475 or higher, and PHYS 1434 or PHYS 1442	3 credits.
indicate double duty courses, i.e.,	IND 1112	Engineering Drawing I		2 credits.
program degree requirements that also meet general education	IND 2304	Advanced Solids Modeling	Prereq: MECH 1222	2 credits.
requirements in that category.	EET 1122	Networks I	Prereq or Coreq: EET 1102, MAT 1275 or higher, PHYS 1443 or 1441	4 credits.

ASSOCIATE IN APPLIED SCIENCE IN MECHANICAL ENGINEERING TECHNOLOGY: 64 TO 66 CREDITS. MINIMUM REQUIRED LIBERAL ARTS AND SCIENCES CREDITS: 20 CREDITS.

EE	COURSE	COURSE TITLE	PRE/CO REQUISITES	CREDITS
LEXIBLE	MAT 1575 ²	*Calculus II or higher	Prereq: MAT 1475	4 credits.
DLLEGE	COM 1330	Public Speaking or higher (IS)	Prereq: CUNY Read, Write Proficiency	3 credits.
S		*Flexible Common Core Course: WCGI, USED, IS, CE		3 credits.
advanced		*Flexible Common Core Course: WCGI, USED, IS, CE		3 credits.
sequential		*Interdisciplinary Course (ID)		3 credits.
/I is		*Liberal Arts Elective (LibArt) ¹ or Foreign Language Sequence (FL) ¹		3 credits.

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	MECH 3500	Computer Programming and Applications	Prereq: MECH 1240, MAT 1475 or higher	3 credits.
S	MECH 3510	Advanced Solid Modeling II	Prereq: IND 2304	3 credits.
	MECH 3600	Mechanical Measurements and Instrumentation	Prereq: MECH 1240, MAT 1475 or higher	3 credits.
	MECH 3650	Advanced Strength of Materials	Prereq: MECH 1233, 2333, MAT 1575 or higher	3 credits.
	MECH 4700	Fluid Mechanics	Prereq: MAT 1575 or higher Prereq or Coreq: MECH 3650	3 credits.
	MECH 4730	Finite Element Methods	Prereq: MECH 3650, MAT 2680	3 credits.
	MECH 4760	Vibration and Advanced Dynamics	Prereq: MAT 2680 and MECH 2333	3 credits.
	MECH 4850	Senior Design Project (WI)	Prereq or Coreq: MECH 4700, 4730	3 credits.
	MECH 4860	Project Management	Prereq: MECH 2333	2 credits.
	MAT 2680	Differential Equations	Prereq: MAT 1575	3 credits.
	MECH	Concentration Area		3 credits.
	MECH	Concentration Area		3 credits.
	MECH	Concentration Area		3 credits.
	MECH	Concentration Area		3 credits.
	BACHELOR OF TECHNOLOGY IN MECHANICAL ENGINEERING IN TECHNOLOGY: 121 TO 123 CREDITS.			

MINIMUM REQUIRED LIBERAL ARTS AND SCIENCES CREDITS: 40 CREDITS.

Updated | 10.31.18

BACHELOR'S DEGREE

GENERAL EDUCATION FLEXIBLE COMMON CORE AND COLLEGE OPTION REQUIREMENTS (19 CREDITS)

¹ Students must take at least one advanced liberal arts course or choose two sequential courses in a foreign language.

At least 1 course designated WI is required from the College Option or Gen Ed Flexible Common Core.

PROGRAM-SPECIFIC DEGREE REQUIREMENTS (29 CREDITS)

PROGRAM-SPECIFIC ELECTIVE COURSES (12 CREDITS)

PROGRAM-SPECIFIC ELECTIVE COURSES

CONCENTRATION AREA

Mechanical Engineering Technology Series

NOTE: A student may substitute a course from a different concentration with the permission of a faculty advisor.

Students must complete 12 credits from one of the three concentrations.

INDUSTRIAL DESIGN

MECH 3520	Rapid Prototyping
MECH 3550	Simulation and Visualization
MECH 3610	Product Design I
MECH 4710	Product Design II
MECH 4800	Advanced 3-Dimensional Animation

MANUFACTURING SYSTEMS

MECH 3530	Advanced Engineering Materials
MECH 3540	Manufacturing Systems
MECH 3620	Advanced Manufacturing Process
MECH 4720	Plastics Product Manufacturing
MECH 4820	Computer-Integrated Manufacturing

COMPUTER SYSTEMS TECHNOLOGY

MECH 3572	Embedded Systems and Applications in Robotics
MECH 3672	Actuators and Sensors Application in Robotics
MECH 4772	Control Systems in Robotics
MECH 4872	Robotics Systems Design and Applications

SAMPLE COURSE OF STUDY

For Associate in Applied Science and Bachelor of Technology in Mechanical Engineering Technology.

SEMESTER	1	(Total Credits 13)
MECH 1101 IND 1112 MAT 1375 ENG 1101 FlexCore	Manufacturing Processes Laboratory Engineering Drawing I Precalculus or higher (MQR) English Composition I	1 credit. 2 credits. 4 credits. 3 credits. 3 credits.
SEMESTER	2	(Total Credits 18)
MECH 1201 MECH 1222 MECH 1233 MECH 1240 MAT 1475 PHYS 1433/1441	Computer-Aided Manufacturing Systems Computer-Aided Engineering Graphics Statics and Strength of Materials Computer Applications in Mechanical Engineering Technology Calculus I or higher (SW) General Physics 1: Algebra Based or General Physics I: Calculus Based (LPS)	3 credits. 2 credits. 3 credits. 2 credits. 4 credits. 4 credits.
SEMESTER	3	(Total Credits 15)
IND 2304 MECH 2322 MECH 2333 MECH 2335 PHYS 1434/1442	Advanced Solids Modeling Engineering Materials Strength of Materials II Kinematics and Dynamics of Machines 2 General Physics II: Algebra Based or General Physics II: Calculus Based (SW)	2 credits. 3 credits. 3 credits. 3 credits. 4 credits.
SEMESTER	4	(Total Credits 18)
MECH 2410/290 MECH 2426 MECH 2430 EET 1122 ENG 1121 Flex Core	o Machine Design or Internship in Mechanical Engineering Technolo Materials Testing Laboratory Thermodynamics Networks I English Composition II	bgy 4 credits. 1 credit. 3 credits. 4 credits. 3 credits. 3 credits. 3 credits.
SEMESTER	5	(Total Credits 16)
MECH 3500 MECH 3510 MECH Con. MECH Con. MAT 1575	Computer Programming and Applications Advanced Solid Modeling II MECH Concentration MECH Concentration Calculus II or higher	3 credits. 3 credits. 3 credits. 3 credits. 4 credits.
SEMESTER	6	(Total Credits 15)
MECH 3600 MECH 3650 MAT 2680 Flex Core Flex Core	Mechanical Measurements and Instrumentation Advanced Strength of Materials Differential Equations	3 credits. 3 credits. 3 credits. 3 credits. 3 credits.
SEMESTER	7	(Total Credits 15)
MECH 4700 MECH 4730 MECH 4760 MECH Con. ID	Fluid Mechanics Finite Element Methods Vibration and Advanced Dynamics MECH Concentration Interdisciplinary Course	3 credits. 3 credits. 3 credits. 3 credits. 3 credits.
SEMESTER	8	(Total Credits 14)
MECH 4850 MECH 4860 MECH Con. COM 1330 LibArts ¹	Senior Design Project Project Management MECH Concentration Public Speaking or higher	3 credits. 2 credits. 3 credits. 3 credits. 3 credits.

Footnotes

¹Examples of advanced liberal arts courses include SOC 3301 (prerequisite: ECON 1101); SOC 2403 (prerequisite: PSY 1101). In meeting their general education requirements overall, students must take at least one

advanced liberal arts course or choose two sequential courses in one of the foreign language (FL) course offerings, such as Arabic (ARB), Spanish (SPA), Chinese (CHN), or French (FREN).

² Specific courses listed indicate double duty courses, i.e., program degree requirements that also meet general education requirements. Choosing to take advantage of double duty can speed up progress toward graduation and increase elective credits. Consult with an advisor about your options.

³Students who have already completed MAT 1575 may select another mathematics or flexible core course instead.

DEGREE CHECKLIST FOR ASSOCIATE IN APPLIED SCIENCE INDUSTRIAL DESIGN TECHNOLOGY AND BACHELOR OF TECHNOLOGY IN MECHANICAL ENGINEERING TECHNOLOGY

For students entering the program Spring 2018 to Spring 2019.

ASSOCIATE DEGREE	COURSE	COURSE TITLE	PRE/CO REQUISITES	CREDITS
	ENG 1101	English Composition I (EC)	Prereq: CUNY Read and Write Proficiency	3 credits.
GENERAL EDUCATION REQUIRED AND FLEXIBLE	ENG 1121	English Composition II (EC)	Prereq: ENG 1101	3 credits.
COMMON CORE	MAT 1275 ²	College Algebra and Trigonometry or higher (MQR)	Prereq: CUNY Proficient	4 credits.
(27 TO 28 CREDITS)	PHYS 1433 ² or	General Physics I: Algebra Based or (LPS, WI)	Prereq or Coreq: MAT 1275 or equivalent	4 to 5
	PHYS 1441 ²	General Physics I: Calculus Based (LPS, WI)	Prereq or Coreq: MAT 1475 or equivalent	credits.
	MAT 1375 ²	Precalculus I or higher (sw)	Prereq: MAT 1275 or higher	4 credits.
		*Flexible Common Core: WCGI, USED, IS, CE		3 credits.
		*Flexible Common Core: WCGI, USED, IS, CE		3 credits.
		*Flexible Common Core: WCGI, USED, IS, CE		3 credits.
	IND 1112	Engineering Drawing I		2 credits.
PROGRAM-SPECIFIC DEGREE REQUIREMENTS	IND 2313	Industrial Design I (F)	Prereq: MAT 1175 or higher, IND 1112	2 credits.
(33 CREDITS)	IND 2304	Advanced Solids Modeling	Prereq: MECH 1222	2 credits.
	IND 2305	Industrial Management (F)		2 credits.
	IND 2340	Engineering Structures (F)	Prereq: MECH 1222, 1233	2 credits.
At least 1 course designated WI is required from the Gen Ed Flexible	IND 2401	Furniture Design (S)	Prereq: MECH 1233, IND 2304, 2313	2 credits.
Common Core.	IND 2406	CAD Plant Layout (S)	Prereq: MECH 1201, 1222	2 credits.
Course only offered in fall (F). Course only offered in spring (S).	IND 2410	Industrial Design II (S)	Prereq: IND 2313, MECH 1233; Prereq or Coreq: IND 2304, MECH 1240	3 credits.
course only oncred in spring (o).	IND 2420	Engineering Animation and Presentation (F)	Prereq: MECH 1233, IND 2304	2 credits.
	MECH 1101	Manufacturing Processes Laboratory		1 credit.
	MECH 1201	Computer-Aided Manufacturing Systems	Prereq: IND 1112, MECH 1101; Prereq or Coreq: MAT 1275 or higher	3 credits.
Double Duty ² Specific courses listed	MECH 1222	Computer-Aided Engineering Graphics	Prereq: IND 1112; Prereq or Coreq: MAT 1275 or higher	2 credits.
indicate double duty courses, i.e.,	MECH 1233	Statics and Strength of Materials	Prereq: IND 1112; MAT 1275 or higher	3 credits.
program degree requirements that also meet general education	MECH 1240	Computer Applications in Mechanical Engineering Technology	Prereq: IND 1112; MAT 1275 or higher	2 credits.
requirements in that category.	MECH 2322	Engineering Materials (WI)	Prereq or Coreq: PHYS 1433 or PHYS 1441	3 credits.
		ASSOCIATE IN APPLIED SCIENCE IN INDUST	RIAL DESIGN TECHNOLOGY: 60 TO 61 C	PEDITS

ASSOCIATE IN APPLIED SCIENCE IN INDUSTRIAL DESIGN TECHNOLOGY: 60 TO 61 CREDITS. MINIMUM REQUIRED LIBERAL ARTS AND SCIENCES CREDITS: 20 CREDITS.

COURSE	COURSE TITLE	PRE/COREQUISITES	CREDITS
MAT 1475 12	Calculus I or higher (sw)	Prereq: MAT 1375	4 credits.
MAT 1575	Calculus II or higher	Prereq: MAT 1475	4 credits.
PHYS 1434 or	General Physics II: Algebra Based or (SW, WI)	Prereq: PHYS 1433	4 to 5
PHYS 1442	General Physics II: Calculus Based (sw, wi)	Prereq: PHYS 1441	credits.
	*Flexible Common Core: WCGI, USED, IS, CE		3 credits.
COM 1330	Public Speaking or higher (IS)	Prereq: CUNY Read, Write Proficiency	3 credits.
	*Interdisciplinary Course (ID)		3 credits.
MECH 2333	Strength of Materials II	Prereq: IND 1112, MECH 1233, Prereq or Coreq: MAT 1375 or higher	3 credits.
MECH 3500	Computer Programming and Applications	Prereq: MECH 1240, MAT 1475 or higher	3 credits.
MECH 3510	Advanced Solid Modeling II	Prereq: IND 2304	3 credits.
MECH 3600	Mechanical Measurements and Instrumentation	Prereq: MECH 1240, MAT 1475 or higher	3 credits.
MECH 3650	Advanced Strength of Materials	Prereq: MECH 1233, 2333, MAT 1575 or higher	3 credits.
MECH 4700	Fluid Mechanics	Prereq: MAT 1575 or higher Prereq or Coreq: MECH 3650	3 credits.
MECH 4730	Finite Element Methods	Prereq: MECH 3650, MAT 2680	3 credits.
MECH 4760	Vibration and Advanced Dynamics	Prereq: MAT 2680 and MECH 2333	3 credits.
MECH 4850	Senior Design Project (WI)	Prereq or Coreq: MECH 4700, 4730	3 credits.
MAT 2680	Differential Equations	Prereq: MAT 1575	3 credits.
MECH	Concentration		3 credits.
MECH	Concentration		3 credits.
MECH	Concentration		3 credits.
MECH	Concentration		3 credits.
	MAT 1475 12 MAT 1575 PHYS 1434 or PHYS 1442 COM 1330 MECH 2333 MECH 3500 MECH 3510 MECH 3600 MECH 3650 MECH 4730 MECH 4760 MECH 4850 MAT 2680 MECH	MAT 1475 12Calculus I or higher (sw)MAT 1575Calculus II or higherPHYS 1434 orGeneral Physics II: Algebra Based or (sw, wi)PHYS 1442General Physics II: Calculus Based (sw, wi)*Flexible Common Core: WCGI, USED, IS, CECOM 1330Public Speaking or higher (IS)*Interdisciplinary Course (ID)MECH 2333Strength of Materials IIMECH 3500Computer Programming and ApplicationsMECH 3510Advanced Solid Modeling IIMECH 3600Mechanical Measurements and InstrumentationMECH 4700Fluid MechanicsMECH 4730Finite Element MethodsMECH 4760Vibration and Advanced DynamicsMECH 4850Senior Design Project (wi)MAT 2680Differential EquationsMECHConcentrationMECHConcentrationMECHConcentration	MAT 1475 ¹² Calculus I or higher (sw) Pereq: MAT 1375 MAT 1575 Calculus II or higher Pereq: MAT 1375 PHYS 1434 or General Physics II: Algebra Based or (sw, wi) Pereq: PHYS 1433 PHYS 1442 General Physics II: Calculus Based (sw, wi) Pereq: PHYS 1441 **Flexible Common Core: WCGI, USED, IS, CE COM 1330 Public Speaking or higher (is) MECH 2333 Strength of Materials II Prereq: CUNY Read, Write Proficiency **Interdisciplinary Course (ib) * MECH 3500 Computer Programming and Applications Prereq: MECH 1240, MAT 1475 or higher MECH 3600 Mechanical Measurements and Instrumentation Prereq: MECH 1240, MAT 1475 or higher MECH 4700 Fluid Mechanics Prereq: MECH 1233, 333, MAT 1575 or higher MECH 4700 Fluid Mechanics Prereq: MECH 1240, AMT 1475 or higher MECH 4700 Fluid Mechanics Prereq: MECH 1233, 233, MAT 1575 or higher MECH 4700 Fluid Mechanics Prereq: MECH 1233, 233, MAT 1575 or higher MECH 4760 Vibration and Advanced Dynamics Prereq: MECH 2333 MECH 4850 Senior Design Project (Wi) Prereq: MECH 4700, 4730 MECH 4850 Differential Equations <t< th=""></t<>

PROGRAM-SPECIFIC ELECTIVE COURSES

CONCENTRATION AREA

MECHANICAL ENGINEERING TECHNOLOGY SERIES

NOTE: A student may substitute a course from a different concentration with the permission of a faculty advisor. Courses are 3 credits except where noted ()

Students must complete 12 credits from one of the three concentrations.

Industrial Design

Rapid Prototyping
Simulation and Visualization
Product Design I
Product Design II
Advanced 3-Dimensional Animation

Manufacturing Systems

MECH 3530	Advanced Engineering Materials
MECH 3540	Manufacturing Systems
MECH 3620	Advanced Manufacturing Process
MECH 4720	Plastics Product Manufacturing
MECH 4820	Computer-Integrated Manufacturing

Robotics

MECH 3572	Embedded Systems and Applications in Robotics
MECH 3672	Actuators and Sensors Application in Robotics
MECH 4772	Control Systems in Robotics
MECH 4872	Robotics Systems Design and Applications

SAMPLE COURSE OF STUDY

For Associate in Applied Science in Industrial Design Technology and Bachelor of Technology in Mechanical Engineering in Technology.

SEMESTER 1			(Total Credits 14)	
	MECH 1101	Manufacturing Processes Laboratory	1 credit.	
	IND 1112 MAT 1275	Engineering Drawing I College Algebra and Trigonometry	2 credits. 4 credits.	
	ENG 1101	English Composition I	3 credits.	
	PHYS 1433	General Physics I: Algebra Based	4 credits.	

SEMESTER 2

MECH 1201	Computer-Aided Manufacturing Systems	3 credits.
MECH 1222	Computer-Aided Engineering Graphics	2 credits.
MECH 1233	Statics and Strength of Materials	3 credits.
MECH 1240	Computer Applications in Mechanical Engineering Technology	2 credits.
MAT 1375	Precalculus I	4 credits.
ENG 1121	English Composition II	3 credits.

(Total Credits 17)

(Total Credits 13)

(Total Credits 16)

(Total Credits 17)

(Total Credits 16)

(Total Credits 15)

SEMESTER 3

IND 2304 Engineering Structures	2 credits.
IND 2305 Industrial Management	2 credits.
IND 2313 Industrial Design I	2 credits.
IND 2340 Engineering Structures	2 credits.
IND 2420 Engineering Animation and Presentation	2 credits.
FlexCore	3 credits.

SEMESTER 4

IN	D 2401	Furniture Design	2 credits.
IN	D 2406	CAD Plant Layout	2 credits.
IN	D 2410	Industrial Design II	3 credits.
M	ECH 2322	Engineering Materials	3 credits.
Fle	exCore		3 credits.
Fle	exCore		3 credits.

SEMESTER 5

MECH 2333	Strength of Materials II	3 credits.
MECH 3510	Advanced Solid Modeling II	3 credits.
PHYS 1434	General Physics II: Algebra Based	4 credits.
MAT 1475	Calculus I	4 credits.
Flex Core		3 credits.

SEMESTER 6

MECH 3500	Computer Programming and Applications	3 credits.
MECH 3600	Mechanical Measurements and Instrumentation	3 credits.
MECH Con.		3 credits.
MAT 1575	Calculus II	4 credits.
COM 1330	Public Speaking	3 credits.

SEMESTER 7

MECH 3650	Advanced Strength of Materials	3 credits.
WECH 3000	Auvanceu Strength of Materials	5 credits.
MECH 4700	Fluid Mechanics	3 credits.
MECH Con.		3 credits.
MAT 2680	Differential Equations	3 credits.
ID	Interdisciplinary Course	3 credits.

SEMESTER 8 (Total Credits 15) MFCH 4730 Finite Element Methods 3 credits. MECH 4760 Vibration and Advanced Dynamics 3 credits. MECH 4850 Senior Design Project 3 credits. MECH Con. 3 credits. MECH Con. 3 credits.

Footnotes

¹Examples of advanced liberal arts courses include SOC 3301 (prerequisite: ECON 1101); SOC 2403 (prerequisite: PSY 1101). In meeting their general education requirements overall, students must take at least one

advanced liberal arts course or choose two sequential courses in one of the foreign language (FL) course offerings, such as Arabic (ARB), Spanish (SPA), Chinese (CHN), or French (FREN).

² Specific courses listed indicate double duty courses, i.e., program degree requirements that also meet general education requirements. Choosing to take advantage of double duty can speed up progress toward graduation and increase elective credits. Consult with an advisor about your options.