TRANSFER PATHWAY GUIDE
2022-2023

Associate of Applied Science in Mechanical Engineering Technology at Sinclair College to a Bachelor of Science in Mechatronics Engineering Technology at Northern Kentucky University

Overview

Completion of the following curriculum will satisfy the requirements for the Associate of Applied Science (AAS) in Mechanical Engineering Technology degree at Sinclair College and leads to the Bachelor of Science (BS) in Mechatronics Engineering Technology degree at Northern Kentucky University (NKU).

Degree Requirements for Sinclair College

To earn a degree at Sinclair College, a student must complete a minimum of 60 credit hours, attain a minimum cumulative GPA of 2.0, and earn a minimum of 20 credit hours at Sinclair College.

Admission Requirements for NKU

Students completing an associate degree with a cumulative GPA of 2.0 or higher will be accepted into NKU.

This bachelor's degree program is designed to provide students with the knowledge and skills needed to succeed in today's highly integrated computer controlled manufacturing. Throughout their curriculum, students are required to take cooperative education ("co-op") in industry in their second or third year of the program, which often continues and leads to full-time employment. Graduates with a rigorous theoretical education and multidisciplinary technical skills are well prepared for engineering and technology positions in applied design, development, implementation, or oversight and maintenance of electromechanical systems and processes.

Tuition and Scholarships

For information on tuition and scholarships, please visit https://nku.edu/admissions/adult/online.html

NKU Contact

For more information, students should contact Joel W. Vanhoose, Transfer Pathway Coordinator, at vanhoosej2@nku.edu.

Degree Requirements for NKU

To earn a bachelor's degree at NKU, students must complete a minimum of 120 credit hours with at least 45 credit hours numbered 300 and above. In addition, at least 25% of the credit hours required for the degree and the last 30 credit hours must be completed at NKU. Students must have an overall GPA of 2.0 and meet all prerequisites for courses and requirements for the major.

SINCLAIR COLLEGE AAS IN MECHANICAL ENGINEERING TECHNOLOGY TO NKU BS IN MECHATRONICS ENGINEERING TECHNOLOGY CHECKLIST

Sinclair College

Category 1: Sinclair Requirements for the AAS in Mechanical Engineering Technology

Sinclair Course	Course or Category	Credits	NKU Course	Completed
CAM 1109	Fundamentals of Tooling & Machining	3	EGT 265	
COM 2211	Effective Public Speaking	3	CMST 101	
ENG 1101	English Composition I	3	ENG 101	
MAT 1470 and MAT 1570 or MAT 1580	College Algebra and Analytic Geometry & Trigonometry or Precalculus	5-6	(MAT 102 or MAT 103) + MAT 100T + MAT 119 or MAT 119	
MET 1111	Preparatory Math for Engineering Technology	3	MAT 100T	
MET 1161	Software Tools for Engineering Technology	1	EGT 100T	
MET 1231	Introduction to Engineering Design Using 3D CAD	4	EGT 310	
MET 1371	CAD Concepts using AutoCAD (MET Elective)	3	EGT 212	
MET 2101	Thermodynamics	3	EGT 450	
MET 2151	Material Science	4	EGT 261	
MET 2201	Statics	3	MET 2201 + MET 2251 = EGT 300 + EGT 300T	
MET 2251	Strength of Materials	3	MET 2201 + MET 2251 = EGT 300 + EGT 300T	
MET 2281	Engineering Technology Professional Practice	3		
MET 2301	Fluid Mechanics	3	EGT 361	
MET 2351	Dynamics	3	EGT 340	
MET 2401	Machine Design	3	EGT 480	
MET 2780	Mechanical Engineering Technology Capstone	3	EGT 200T	
PHY 1141	College Physics I	4	PHY 211	
SOC 1101	Introduction to Sociology	3	SOC 100	
	Total Associate Degree Hours	**60-61**		

TBS XXX means to be selected by Sinclair College student.
TBD XXX means to be determined by NKU based on course selected at Sinclair College.

A grade of A or B in MAT 1470 equates to MAT 103 + MAT 100T. Grade of C or D in MAT 1470 equates to MAT 102 + MAT 100T.

Northern Kentucky University

Category 2: NKU Additional General Education Requirements

NKU Course	Course	Credits	Sinclair Course	Taken at Sinclair
TBS XXX	Cultural Pluralism	3		
TBS XXX	Individual & Society	3		
TBS XXX	Culture & Creativity	6		
TBS XXX	Global Viewpoints	3		
	Subtotal General Education Courses	**15**		

Category 3: NKU Major Requirements for the BS in Mechatronics Engineering Technology

NKU Course	Course	Credits	Sinclair Course	Taken at Sinclair
EGT 116	Intro to Manufacturing	3		
EGT 161	D.C. Circuit Analysis	3		
EGT 212	Computer-Aided Drafting and Design	3	MET 1371	x
EGT 243	A.C. Circuit Analysis	3		
EGT 245	Digital Electronics	3		
EGT 261	Engineering Materials	3	MET 2151	x
EGT 267	Programming for Engineering Applications	3	EGR 2261	
EGT 291W	Writing in Engineering Technology	3		
EGT 300	Statics and Strength of Materials	3	MET 2201 + MET 2251	x
EGT 301	Cooperative Education in Engineering Technology	3		
EGT 310	Project Management and Problem Solving	3	MET 1231	x
EGT 340	Applied Dynamics	3	MET 2351	x
EGT 361	Fluid Power	3	MET 2301	x
EGT 367	Microprocessors	3		
EGT 386	Electromechanical Instrumentation and Control	3	EET 2281 + EET 2282	
EGT 402	Control Systems	3		
EGT 408	Mechatronics Topics	3		
EGT 416	Capstone I	1		
EGT 417	Capstone II	3		
CHE 130/130L	Chemistry: An Engineering Approach	4		
MAT 119	Precalculus Mathematics	3	MAT 1570 MAT 1580	x
MAT 129	Calculus I	4	MAT 2270	

NKU Course	Course	Credits	Sinclair Course	Taken at Sinclair
STA 205	Statistical Methods	3	MAT 1450	
PHY 211	General Physics with Laboratory I	4	PHY 1141	x
PHY 213	General Physics with Laboratory II	4	PHY 1142	
SOC 100	Introduction to Sociology	3	SOC 1101	x
	Choose one track: Automated Systems Track Alternative Energy Track Laser Technology Track Computer Science Track (Required courses for each track are listed in Categories 4-7 tables below.)	18		
	Total NKU Major Credit Hours	**98**		
	Less Major Credit Hours from Sinclair	**28-37**		
	Subtotal Major Credit Hours at NKU	**61-70**		
	Total Baccalaureate Degree Credit Hours	**136-146**		

Students must choose one of the following tracks: Automated Systems Track, Alternative Energy Track, Laser Technology Track or Computer Science Track. Credits hours for the tracks and bachelor degree can vary based on the courses taken at Sinclair College. The total credit hours for each track are based on the student completing the recommended courses while at Sinclair College. Some courses in the Alternative Energy Track and the Laser Technology track will be taken at Cincinnati State Technical and Community College.

Category 4: NKU Requirements for the Automated Systems Track

NKU Course	Course	Credits	Sinclair Course	Taken at Sinclair
EGT 265	Manufacturing Processes and Metrology	3	CAM 1109	x
EGT 320	Robotic Systems and Material Handling	3		
EGT 365	CNC & Manufacturing Process Planning	3		
EGT 465	Automated Manufacturing Systems	3		
EGT 480	Machine Design	3	MET 2401	x
EGT XXX	Select 3 additional credit hours of EGT courses at NKU	3	MET 2101 = EGT 450	x
	Additional Track Credit Hours	**9**		

Category 5: NKU Requirements for the Alternative Energy Track

NKU Course	Course	Credits	Sinclair Course	Taken at Sinclair
Take at CState (equates to	Power Systems Foundations (PSET 140 at Cincinnati State)	1		

NKU Course	Course	Credits	Sinclair Course	Taken at Sinclair
EGT 140)				
Take at CState (equates to EGT 151)	Introduction to Controls and Robotics (EMET 150 at Cincinnati State)	2		
Take at CState (equates to EGT 210)	Energy Efficiency and Audits (EMET 210 at Cincinnati State)	3		
Take at CState (equates to EGT 325)	Solar and Renewable Energy (EMET 225 at Cincinnati State)	3		
EGT 450	Thermodynamics and Heat Transfer	3	MET 2101	x
EGT XXX	Select 6 additional credit hours of EGT courses	6	CAM 1109 = EGT 265 MET 2401 = EGT 480	x
	Additional Track Credit Hours	**9**		

Category 6: NKU Requirements for the Laser Technology Track

NKU Course	Course	Credits	Sinclair Course	Taken at Sinclair
Take at CState (equates to EGT 151)	Introduction to Controls and Robotics (EMET 150 at Cincinnati State)	2		
Take at CState (equates to EGT 293)	Laser 1 (EMET 245 at Cincinnati State)	3		
Take at CState (equates to EGT 294)	Electric Drive Mechanisms (EMET 275 at Cincinnati State)	4		
Take at CState (equates to EGT 395)	Laser 2 (EMET 246 at Cincinnati State)	3		
EGT XXX	Select 6 additional credit hours of EGT courses	6	MET 2101 = EGT 450 MET 2401 = EGT 480	x
	Additional Track Credit Hours	**12**		

Category 7: NKU Requirements for the Computer Science Track

NKU Course	Course	Credits	Sinclair Course	Taken at Sinclair
CSC 260	Object Oriented Programming I	3	CIS 2212	
CSC 360	Object Oriented Programming II	3	CIS 2217	
CSC 362	Computer Systems	3		
CSC 407	Concepts of Programming Languages	3		
CSC 462	Computer Architecture	3		
INF 120	Elementary Programming	3	CIS 1202	
	Additional Track Credit Hours	**18**		

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