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TO: Dr. Monty Sullivan
LCTCS President

THROUGH: Dr. Wendi Palermo 
Chief Education and Training Officer

FROM: William Tulak 
Director of Institutional Effectiveness

DATE: April 6, 2023

SUBJECT: Program Requests at SOWELA Technical Community College

APPROVED
 4/12/23
LCTCS BOARD OF SUPERVISORS

FOR BOARD ACTION

Recommendation: Staff recommends the Board approve the following program requests listed below.

Program Modifications

1. Associate of Applied Science (AAS) in Business Administration (CIP 52.0101) new Concentration in Office Administration – **4 STARS**
 - a. Technical Diploma (TD) in Business Administration (CIP 52.0101) new Concentration in Office Administration – **4 STARS**
 - b. Career and Technical Certificate (CTC) in General Clerk (CIP 52.0401) with an Industry Based Certification (IBC) OfficePro issued by TestOut – **3 STARS**
2. Associate of Applied Science (AAS) in Accounting Technology (52.0302) – **4 STARS**
 - a. Career and Technical Certificate (CTC) in General Clerk (CIP 52.0401) with an Industry Based Certification (IBC) OfficePro issued by TestOut – **3 STARS**
3. Technical Diploma in Carpentry (CIP 46.0201) – **4 STARS**
4. Technical Diploma in Outdoor Power Equipment Technology (CIP 47.0606) – **2 STARS**
 - a. Certificate of Technical Studies (CTS) in OPET Technician II (CIP 47.0606) – **2 STARS**
5. Associate of Applied Science (AAS) in Machine Tool Technology (CIP 48.0501) – **4 STARS**
 - a. Technical Diploma (TD), Machine Tool Technology (CIP 48.0501) – **4 STARS**
 - b. Career and Technical Certificate (CTC), Machinist/Millwright Helper (CIP 48.0501) – **4 STARS**

Background: SOWELA Technical Community College is adding a concentration to the current Associate of Applied Science degree and Technical Diploma in Business Administration. The concentration in Office Administration will offer students a third specialty option. Currently, students may select a concentration from General Business and Hospitality Management. Additionally, BUSI 2330 Business Ethics is being added

to the CTC in General Clerk (CIP 520401). The CTC in General Clerk is currently 6 credit hours/90 contact hours and will become 9 credit hours/135 contact hours with this proposed change. This change is being proposed to enhance this exit point credential. The CTC in General Clerk (CIP 520401) is an exit point credential of both the Associate of Applied Science (AAS) in Business Administration (CIP 520101) and the Associate of Applied Science (AAS) in Accounting Technology (52.0302).

Changes in the TD in Carpentry will reduce the credit hours from 54 to 50 and the contact hours from 1275 to 1200. These proposed changes will not impact the CTC or CTS exit points. This curriculum was adopted as part of the acquisition of the CLTCC Lamar Salter Campus in 2022. These changes will align the program with other TD programs at SOWELA

Changes in the TD in Outdoor Power Equipment Technology will reduce the credit hours from 58 credit hours/1365 contact hours to 54 credit hours/1290 contact hours. The CTS in OPET Technician II will change from 32 credit hours/765 contact hours to 30 credit hours/735 contact hours. This curriculum was adopted as part of the acquisition of the CLTCC Lamar Salter Campus in 2022. These changes will align the program with other TD programs at SOWELA.

The Machine Tool Technology curriculum is being revised based on recommendations from the program advisory committee and industry feedback. Changes in the AAS in Machine Tool Technology curriculum will impact the CTC and TD exit points by reducing the credit hours/contact hours as follows: CTC from 14 credit hours/285 contact hours to 12 credit hours/270 contact hours; TD from 1110 contact hours to 1125 contact hours (no change in credit hours). The clock hours in the AAS will increase from 1320 to 1350 (no change in credit hours).

Fiscal Impact: There will be no fiscal impact unless otherwise noted.

History of Prior Actions: There is a history of revising programs to meet student and workforce needs.

Benefits to the System: These requests will allow SOWELA to better meet student and workforce needs.



Approved for Recommendation to the Board
Dr. Monty Sullivan

April 12, 2023

Date



March 24, 2023

Board of Supervisors
The Louisiana Community and Technical College System
265 South Foster Drive
Baton Rouge, LA 70806

Attention: Wendi Palermo, Ph.D.
LCTCS Chief Education and Training Officer

Dr. Palermo,

SOWELA Technical Community College is requesting the following program modifications:

Program Modification:

1. Associate of Applied Science (AAS) in Business Administration (CIP 520101) – 4/5 STARS
 - Career and Technical Certificate (CTC), General Clerk (CIP 520401) with an Industry Based Certification (IBC) OfficePro issued by TestOut – 4/5 STARS

Background/Justification:

The SOWELA Technical Community College School of Business and Applied Technology proposes adding a BUSI 2330 Business Ethics to the current CTC – General Clerk (CIP 520401). The CTC – General Clerk is currently 6 credit hours/90 contact hours and will become 9 credit hours/135 contact hours with this proposed change. This change is being proposed to enhance this exit point credential.

Program Modification:

1. Associate of Applied Science (AAS) in Accounting Technology (520302) – 4/5 STARS
 - Career and Technical Certificate (CTC), General Clerk (CIP 520401) with an Industry Based Certification (IBC) OfficePro issued by TestOut – 4/5 STARS

Background/Justification:

The SOWELA Technical Community College School of Business and Applied Technology proposes adding a BUSI Elective to the current CTC – General Clerk. The CTC – General Clerk is currently 6 credit hours/90 contact hours and will become 9 credit hours/135 contact hours with this proposed change. This change is being proposed to enhance this exit point credential.



Program Modification:

1. Technical Diploma, Carpentry (CIP 460201) – 4 STARS
 - Certificate of Technical Studies (CTS), Carpentry Technician II (CIP 460201) – 4 STARS
 - Certificate of Technical Studies (CTS), Carpentry Technician I (CIP 460201) – 4 STARS
 - Career and Technical Certificate (CTC), Carpenter’s Helper (CIP 460201) – 4 STARS

Background/Justification:

The SOWELA Technical Community College School of Transportation and Applied Technology proposes removing CPTR Introduction to Computers (1/1/2) and JOBS 2450 Job Seeking Skills (2/0/2) from the Carpentry (CIP 460201) curriculum. These proposed changes will not impact the CTC or CTS exit points; however, the changes will impact the TD exit point by reducing the credit hours from 54 to 50 and the contact hours from 1275 to 12000. This curriculum was adopted as part of the acquisition of the CLTCC Lamar Salter Campus in 2022. These changes will align the program with other TD programs at SOWELA; these courses were removed from other technical programs several years prior to the acquisition.

Program Modification:

1. Technical Diploma, Outdoor Power Equipment Technology (CIP 470606) – 2 STARS
 - Certificate of Technical Studies (CTS), OPET Technician II (CIP 470606) – 2 STARS
 - Career and Technical Certificate (CTC), OPET Technician I (CIP 470606) – 2 STARS

Background/Justification:

The SOWELA Technical Community College School of Transportation and Applied Technology proposes removing CPTR Introduction to Computers (1/1/2) and JOBS 2450 Job Seeking Skills (2/0/2) from the Outdoor Power Equipment Technology (CIP 470606) curriculum. These proposed changes will not impact the CTC exit point; however, the changes will impact the CTS and TD exit points by reducing the credit hours/contact hours as follows: CTS – from 32 credit hours/390 contact hours to 30 credit hours/360 contact hours; TD from 58 credit hours/1290 contact hours to 54 credit hours/1015 contact hours. This curriculum was adopted as part of the acquisition of the CLTCC Lamar Salter Campus in 2022. These changes will align the program with other TD programs at SOWELA; these courses were removed from other technical programs several years prior to the acquisition.



Program Modification:

1. Associate of Applied Science (AAS) in Machine Tool Technology (CIP 480501) – 4 STARS
 - Technical Diploma (TD), Machine Tool Technology (CIP 480501) – 4 STARS
 - Certificate of Technical Studies (CTS), Machine Apprentice (CIP 480501) – 4 STARS
 - Career and Technical Certificate (CTC), Machinist/Millwright Helper (CIP 480501) – 4 STARS

Background/Justification:

The SOWELA Technical Community College School of Transportation and Applied Technology proposes the following changes to the Machine Tool Technology curriculum: addition of three newly created courses - MTEC 1232 Computer Numerical Control I, MTEC 2133 Computer Numerical Control II, and MTEC 2234 Computer Numerical Control III; addition of existing courses – WELD 1110 Occupational Orientation and Safety and WELD 1410 SMAW Basic Beads. The changes will not impact the credit/contact hours of the CTS exit point; however, the changes will impact the CTC and TD exit points by reducing the credit hours/contact hours as follows: CTC – from 14 credit hours/285 contact hours to 12 credit hours/270 contact hours; TD from 1110 contact hours to 1125 contact hours (no change in credit hours). These changes are being proposed in response to advisory committee/industry feedback.

The proposed curriculum is attached. If you require additional information, please don't hesitate to phone or email. Your consideration of these requests is much appreciated.

Sincerely,

Paula Hellums

Dr. Paula Hellums
Vice Chancellor for Academic Affairs

Below is the four-semester plan for completing the AAS in Business Administration with a concentration in Office Administration. The AAS in Business Administration is 60 credit hours and 900 contact hours. Highlighted courses are those in the proposed concentration in Office Administration.

Business Administration
(Office Administration Concentration)
CIP CODE: 520101
Associate of Applied Science Degree

Course No.	Course Title	Lecture	Lab	Credit Hours	Contact Hours
Semester 1					
ITEC 1000	Application Basics	3	0	3	45
	or				
OADM 1150	Introduction to Software Applications				
BUSI 1030	Introduction to Business	3	0	3	45
BUSI 2310	Principles of Management	3	0	3	45
ACCT 1110	Fundamentals of Accounting	3	0	3	45
	General Education Course	3	0	3	45
				15	225
Semester 2					
ECON 2020	Microeconomics	3	0	3	45
BUSI 2010	Legal Environment of Business	3	0	3	45
BUSI 2300	Business Communications	3	0	3	45
OADM 1250	Keyboarding	3	0	3	45
	General Education Course	3	0	3	45
				15	225
Semester 3					
BUSI 2320	Principles of Marketing	3	0	3	45
BUSI 2330	Business Ethics	3	0	3	45
OADM 1700	Microsoft Word	3	0	3	45
	General Education Course	3	0	3	45
	General Education Course	3	0	3	45
				15	225
Semester 4					
OADM 1330	Introduction to Spreadsheets	3	0	3	45
ACCT 1210	Computerized Accounting	3	0	3	45
BUSI 2080	Introduction to Human Resource Management	3	0	3	45
OADM 2996	Special Projects	3	0	3	45
	General Education Course	3	0	3	45
				15	225

AAS – Business Administration (60 Credit Hours)

Below is the current four-semester plan for completing the AAS in Business Administration. The AAS in Business Administration is 60 credit hours and 900 contact hours.

Business Administration
(Office Administration Concentration)
CIP CODE: 520101
Associate of Applied Science Degree

Course No.	Course Title	Lecture	Lab	Credit Hours	Contact Hours
Semester 1					
ITEC 1000	Application Basics or	3	0	3	45
OADM 1150	Introduction to Software Applications				
BUSI 1030	Introduction to Business	3	0	3	45
BUSI 2310	Principles of Management	3	0	3	45
ACCT 1110	Fundamentals of Accounting (Concentration Course)	3	0	3	45
	General Education Course	3	0	3	45
				15	225
Semester 2					
ECON 2020	Microeconomics	3	0	3	45
BUSI 2010	Legal Environment of Business	3	0	3	45
BUSI 2300	Business Communications	3	0	3	45
	Concentration Course	3	0	3	45
	General Education Course	3	0	3	45
				25	225
Semester 3					
BUSI 2320	Principles of Marketing	3	0	3	45
BUSI 2330	Business Ethics	3	0	3	45
	Concentration Course	3	0	3	45
	General Education Course	3	0	3	45
	General Education Course	3	0	3	45
				15	225
Semester 4					
	Concentration Course	3	0	3	45
	Concentration Course	3	0	3	45
	Concentration Course	3	0	3	45
	Concentration Course	3	0	3	45
	General Education Course	3	0	3	45
				15	225

AAS – Business Administration (60 Credit Hours)

The table below identifies the stackable exit points which may be earned in the Business Administration curriculum. The Office Administration concentration is in green font as is the moving of BUSI 2330 (Business Ethics) to the CTC General Clerk (CIP 520401) exit point. The deletion of BUSI 2300 (Business Ethics) from the CTS exit point is in red font with strikethrough.

Business Administration
(Office Administration Concentration)
CIP CODE: 520101
Associate of Applied Science/Diploma/Certificate Options

Course No.	Course Title	Lecture	Lab	Total Credit Hrs	Contact Hours
ITEC 1000	Application Basics	3	0	3	45
	or				
OADM 1150	Introduction to Software Applications				
BUSI 1030	Introduction to Business	3	0	3	45
BUSI 2330	Business Ethics	3	0	3	45
	CTC – General Clerk (CIP 520401)			6 9	90 135
	<i>9 credit hours/135 contact hours</i>				
BUSI 2010	Legal Environment of Business	3	0	3	45
ECON 2020	Microeconomics	3	0	3	45
BUSI 2300	Business Communications	3	0	3	45
BUSI 2310	Principles of Management	3	0	3	45
BUSI 2320	Principles of Marketing	3	0	3	45
BUSI 2330	Business Ethics	3	0	3	45
	CTS – Management Trainee			18 15	270 225
	<i>24 credit hours/360 contact hours</i>				
ACCT 1110	Fundamentals of Accounting	3	0	3	45
OADM 1250	Keyboarding	3	0	3	45
OADM 1330	Introduction to Spreadsheets	3	0	3	45
ACCT 1210	Computerized Accounting	3	0	3	45
BUSI 2080	Introduction to Human Resource Management	3	0	3	45
OADM 1700	Microsoft Word	3	0	3	45
OADM 2996	Special Projects	3	0	3	45
	TD – Business Administration			21	315
	<i>45 credit hours/675 contact hours</i>				
	General Education	3	0	3	45
	General Education	3	0	3	45
	General Education	3	0	3	45
	General Education	3	0	3	45
	General Education	3	0	3	45
				15	225
	AAS – Business Administration				
	<i>60 credit hours/ 900 contact hours</i>				

The below table demonstrates **proposed** changes to the “General Clerk” (CIP 520401) exit point in the Business Administration program. The current exit point for “General Clerk” is 6 Credit Hours and 90 Contact Hours. The proposed change would move the required BUSI 2330 Business Ethics from the CTS – Management Trainee to the CTC – General Clerk and make that CTC a 9 Credit Hour and 135 Contact Hour CTC. *Deletions are in red ink with strike through. Additions are in green ink.*

BUSINESS ADMINISTRATION
Diploma/Certificate Options

Course No.	Course Title	Lecture	Lab	Total Credit Hours	Total Contact Hours
ITEC 1000	Application Basics	3	0	3	45
OADM 1150	Introduction to Software Applications	3	0	3	
BUSI 1030	Introduction to Business	3	0	3	45
BUSI 2330	Business Ethics	3	0	3	45
	CTC – General Clerk (69) (CIP 520401)			69	90135
BUSI 2010	Legal Environment of Business	3	0	3	45
ECON 2020	Microeconomics	3	0	3	45
BUSI 2300	Business Communications	3	0	3	45
BUSI 2310	Principles of Management	3	0	3	45
BUSI 2320	Principles of Marketing	3	0	3	45
BUSI 2330	Business Ethics	3	0	3	45
	CTS – Management Trainee (24) (CIP 520101)			1815	270225
	Contact Hours 360				

The below table demonstrates **proposed** changes to the “General Clerk” (CIP 520401) exit point in the Business Administration program. The current exit point for “General Clerk” is 6 Credit Hours and 90 Contact Hours. The proposed change would move the required BUSI 2330 Business Ethics from the CTS – Management Trainee to the CTC – General Clerk and make that CTC a 9 Credit Hour and 135 Contact Hour CTC. *Deletions are in red ink with strike through. Additions are in green ink.*

BUSINESS ADMINISTRATION
Diploma/Certificate Options

Course No.	Course Title	Lecture	Lab	Total Credit Hours	Total Contact Hours
ITEC 1000	Application Basics	3	0	3	45
	or				
OADM 1150	Introduction to Software Applications	3	0	3	
BUSI 1030	Introduction to Business	3	0	3	45
BUSI 2330	Business Ethics	3	0	3	45
	CTC – General Clerk (69) (CIP 520401)			69	90135
BUSI 2010	Legal Environment of Business	3	0	3	45
ECON 2020	Microeconomics	3	0	3	45
BUSI 2300	Business Communications	3	0	3	45
BUSI 2310	Principles of Management	3	0	3	45
BUSI 2320	Principles of Marketing	3	0	3	45
BUSI 2330	Business Ethics	3	0	3	45
	CTS – Management Trainee (24) (CIP 520101)			1815	270225
	Contact Hours 360				

The below table demonstrates **proposed** changes to the “General Clerk” (CIP 520401) exit point in the Accounting Technology program. The current exit point for “General Clerk” is 6 Credit Hours and 90 Contact Hours. The proposed change would move the required Business Elective from the CTS – Accounting Assistant to the CTC – General Clerk and make that CTC a 9 Credit Hour and 135 Contact Hour CTC. *Deletions are in red ink with strike through. Additions are in green ink.*

Below the table is a list of what courses count as Business Electives for this program.

ACCOUNTING TECHNOLOGY

Diploma/Certificate Options

Course No.	Course Title	Lecture	Lab	Total Credit Hours	Total Contact Hours
ITEC 1000	Application Basics	3	0	3	45
OADM 1150	Introduction to Software Applications	3	0	3	
ACCT 1110	Fundamentals of Accounting	3	0	3	45
	<i>Business Elective</i>	<i>3</i>	<i>0</i>	<i>3</i>	<i>45</i>
	CTC – General Clerk (69) (CIP 520401)			9	90135
OADM 1100	Keyboarding I	3	0	3	45
OADM 1330	Introduction to Spreadsheets	3	0	3	45
OADM 1450	Basic Word Processing	3	0	3	45
	Accounting Elective	3	0	3	45
	Business Elective	3	0	3	45
	CTS – Accounting Assistant (21) CIP 520302			1512	225180
	Total Contact Hours 315				

Approved Business Electives: 3 hours

- BUSI 1030 Introduction to Business
- BUSI 1210 Business Math
- BUSI 1090 Personal Finance
- BUSI 2080 Intro to HR Management
- BUSI 2010 Legal Environment of Business
- BUSI 2330 Business Ethics
- BUSI 2320 Principles of Marketing
- BUSI 2995 Internship

The below table documents changes for the Carpentry TD (CIP 460201). The current classes to be removed are in red ink with a strike through as the original credit hours and contact hours. The changes in credit hours and contact are in green ink. The current program's exit points remain unchanged until the TD which will go from 54 Credit Hours and 1275 Contact Hours to 50 Credit Hours and 1200 Contact Hours.

CARPENTRY Diploma/Certificate Options					
Couse No.	Course Title	Lecture	Lab	Total Credit Hrs	Total Contact Hrs
CARP 1110	Introduction, Safety and Hand Tools	2	1	3	60
CARP 1130	Power Tools	2	2	4	90
CARP 1140	Building Materials	1	1	2	45
	CTC – Carpenter’s Helper			9	195
CARP 2620	Applied Mathematics for Carpentry	2	1	3	60
CARP 1150	Blueprint Reading	2	3	5	120
	CTS- Carpentry Technician I			17	180
CARP 2110	Site Layout	1	1	2	45
CARP 2120	Foundations & Floor Framing	2	3	5	120
CARP 2131	Wall & Ceiling Framing	0	4	4	120
	CTS – Carpentry Technician II			28	285
CPTR 1000	Introduction to Computers	1	1	2	45
CARP 2210	Roofing I	2	3	5	120
CARP 2220	Roofing II	2	3	5	120
CARP 2230	Exterior Finish & Trim	1	2	3	75
CARP 2310	Interior Finish & Trim	1	2	3	75
CARP 2320	Cabinetmaking	2	4	6	150
JOBS 2450	Job Seeking Skills	2	0	2	30
	TD- Carpentry			54	540
	CIP Code: 460201				
	Total Contact Hours			1275	1200

The below table documents changes in exit points for the Outdoor Power Equipment TD (CIP 470606). *The current exit points are in red ink with a strike through. The new exit point credit hours are in green ink.* The current program's CTC – OPET Technician I will remain unchanged. The CTS – OPET Technician II will go from 32 to 30 Credit Hours. The TD in Outdoor Power Equipment Technology will go from 58 to 54 Credit Hours and from 1290 Contact Hours to 1015 Contact Hours

OUTDOOR POWER EQUIPMENT TECHNOLOGY

Diploma/Certificate Options

Course No.	Course Title	Lecture	Lab	Total Credit Hrs	Total Contact Hrs
OPET 1111	Occupational introduction & Safety	1	1	2	45
OPET 1121	Basic Tools & Repair Techniques	1	1	2	45
OPET 1131	Shop Management	1	2	3	75
OPET 1141	Engine Principles	1	3	4	105
OPET 1151	Fuel Systems	1	2	3	75
	CTC – OPET Technician I (14)				345
OPET 1161	Engine Lubrication & Cooling Systems	1	1	2	45
OPET 1221	Basic Electricity	1	2	3	75
OPET 1231	Charging Systems	1	2	3	75
OPET 1241	Ignition Systems	1	2	3	75
OPET 1251	Starting Systems	1	1	2	45
OPET 1261	Drive Train	1	2	3	75
JOBS-2450	Job Seeking Skills	2	0	2	30
	CTS – OPET Technician II (3230)				765735
CPTER-1000	Introduction to Computers	1	1	2	45
OPET 1311	Hydraulics & Brakes	1	2	3	75
OPET 1321	Generators	1	1	2	45
OPET 1331	Frames, Suspension, and Decks	1	2	3	75
OPET 1341	Systems Troubleshooting	2	2	4	90
OPET 2111	Outboard Engine Overhaul	1	1	2	45
OPET 2121	Motorcycle Engine Overhaul	1	1	2	45
OPET 2131	Lawn & Garden Engine Overhaul	1	1	2	45
OPET 2141	All-Terrain Vehicle Engine Overhaul	1	1	2	45
OPET 2151	Lawn & Garden Diesel Engine Overhaul	1	1	2	45
OPET 2161	Personal Watercraft Engine Overhaul	1	1	2	45
	TD- Outdoor Power Equipment Technician (5854)				13651290
	CIP CODE - 470606				
	Total Clock Hours – 1290				

Below is the PROPOSED changes for completing the AAS in Machine Tool Technology. Currently the AAS in Machine Tool Technology is 60 Credit Hours and Contact Hours 1320. The proposed changes would maintain the 60 Credit Hours and change the Contact Hours 1350. Additions are in Green. Subtractions are in Red with Strikethrough.

**Machine Tool Technology
Associates of Applied Science Degree**

Course No.	Course Title	Lecture	Lab	Credit Hours	Clock Hours
Semester 1					
MTEC 1110	Orientation and Safety	2	1	3	60
WELD 1110	Occupational Orientation and Safety	1	1	2	45
MTEC 1120	Introduction to Machinist	2	2	4	90
MTEC 1130	Introduction to Millwright	2	2	4	90
General ED	English Composition	3	0	3	45
MTECH 1140	Machine Shop Math	3	0	3	45
WELD 1410	SMAW Basic Beads	1	1	2	45
				15	330315
Semester 2					
MTEC 1210	Machinist I	1	3	4	105
MTEC 1220	Millwright I	1	3	4	105
General Ed	Humanities	3	0	3	45
General Ed	Math 1000 or 1100	3	0	3	45
MTEC 1232	Computer Numerical Control I	1	1	2	45
				16	300345
Semester 3					
MTEC 2110	Machinist II	1	3	4	105
MTEC 2120	Millwright II	1	3	4	105
General Ed	Social/Behavioral Science	3	0	3	45
MTEC 2130	Milling Operations	1	2	3	75
MTEC 2133	Computer Numerical Control II	1	2	3	75
				14	330
Semester 4					
MTEC 2210	Advanced Millwright	1	3	4	105
MTEC 2220	Advanced Machinist	1	3	4	105
General ED	Natural Science	3	0	3	45
MTEC 2234	Computer Numerical Control	1	3	4	105
MTEC 2234	Computer Numerical Control III	1	3	4	105
				15	360

AAS – Machine Tool Technology (60 credit hour)

CIP Code: 480501 Total Clock Hrs: ~~1320~~1350

The table below identifies PROPOSED CHANGES to stackable exit points for the CURRENT Machine Tool Technology TD. The Machine Tool Technology TD is currently 45 Credit Hours and 1110 Contact Hours. The proposed Changes will retain the 45 Credit Hours and increase the Contact Hours to 1125

Additions are in Green. Subtractions are in Red with Strikethrough.

**Machine Tool Technology
Technical Degree**

Course No.	Course Title	Lecture	Lab	Credit Hours	Contact Hours
MTEC 1110	Orientation and Safety	2	1	3	60
WELD 1110	Occupational Orientation and Safety	1	1	2	45
MTEC 1120	Introduction to Machinist	2	2	4	90
MTEC 1130	Introduction to Millwright	2	2	4	90
WELD 1410	SMAW Basic Beads	1	1	2	45
MTEC 1140	Machine Shop Math	3	0	3	45
				14 12	285 270
	CTC Machinist/Millwright Helper (14)-12				
MTEC 1210	Machinist I	1	3	4	105
MTEC 1220	Millwright I	1	3	4	105
MTEC 2110	Machinist II	1	3	4	105
MTEC 1232	Computer Numerical Control I	1	1	2	45
MTEC 2120	Millwright II	1	3	4	105
MTEC 2130	Milling Operations	1	2	3	75
MTEC 2133	Computer Numerical Control II	1	2	3	75
				21	540
	CTS Machine Apprentice (33)				
MTEC 2210	Advanced Millwright	1	3	4	105
MTEC 2220	Advanced Machinist	1	3	4	105
MTEC 2230	CNC	1	3	4	105
MTEC 2234	Computer Numerical Control III	1	3	4	105
				12	315

TD – Machine Tool Technology (45 credit hour)

CIP Code: 480501, Total Clock Hrs: ~~1110~~1125

Machine Tool Technology
CIP 480501

Course Descriptions

New courses are in **Green Font**. Pre-requisite changes are in **Blue Font**. Existing courses are in Black Font.

SEMESTER I

WELD 1110. Core (Orientation and Safety)

Lecture 1, Lab,1 Credit 2

Safety practices, communication skills, employability skills, power and hand tools, and work habits are important to success in the machinist, millwright, and Welding professions.

MTEC 1120. Introduction to Machinist

Lecture 2, Lab 2, Credit 4

Blueprint: Identifying types and uses of blueprints, identifying lines, and interpreting views, dimensions, and tolerances. Benchwork: Use of layout tools, precision measuring tools, identifying hand tools, metals, and grinding wheels. Cut stock with hand and power hacksaws, sharpen drill bits, and manufacture mechanical parts using layout and precision measuring tools.

MTEC 1130. Introduction to Millwright

Lecture 2, Lab 2, Credit 4

Identifies the types of fasteners, basic tools, and methods used for the layout of various lines, angles, circles, and arcs. Describes gaskets and O-rings, along with their uses, and explain the safety requirements for oxyfuel cutting and equipment setup requirements (WE)

MTEC 1210. Machinist I

Lecture 1, Lab 3, Credit 4

Drill press: Identifying types and uses of drill presses and controls. Proper use of speeds, feeds, drilling and tapping. Manufacture mechanical parts using drilling, reaming and tapping operations. Lathe: Identifying types of lathes, accessories, parts, and controls. How to indicate OD's, ID's, and faces of parts to set up for machining. How to face and turn OD's and use of speeds and feeds. Corequisites: MTEC 1112 and MTEC 1120.

WELD 1410. SMAW Basic Beads

Lecture 1, Lab 1, Credit 2

An introduction to the fundamentals of shielded metal arc welding including safety and practice of welding beads. Co-requisite: **WELD 1110**. (WE)

SEMESTER II

MTEC 1210. Machinist I

Lecture 1, Lab 3, Credit 4

Drill press: Identifying types and uses of drill presses and controls. Proper use of speeds, feeds, drilling and tapping. Manufacturing mechanical parts using drilling, reaming, and tapping operations. Lathe: Identifying types of lathes, accessories, parts, and controls. How to indicate OD's, ID's, and faces of parts

AAS – Machine Tool Technology (60 credit hours / 1350 contact hours)

to set up for machining. How to face and turn OD's and use of speeds and feeds. Prerequisites: **WELD 1110** and MTEC 1120. MTEC 1220.

MTEC 1220. Millwright I

Lecture 1, Lab 3, Credit 4

Intermediate trade math, field sketching, intermediate blueprint reading, specialty tools, and millwright power tools. Prerequisites: **WELD 1110**, MTEC 1130, and MTEC 1140.

MTEC 1232. Computer Numerical Control I (CNC)

Lecture 1, Lab 1, Credit 2

Focuses on numerical control techniques in metal forming and machine processes. Includes basic theory and practice in lathe and milling machine, computer numerical control (CNC) program writing with G and M code.

SEMESTER III

MTEC 2110. Machinist II

Lecture 1, Lab 3, Credit 4

Basic lathe: How to knurl, groove/part off, bore, and calculate proper speeds and feeds. Manufacture mechanical parts using turning, facing, knurling, and grooving operations.

Basic Mill: How to mill squaring parts and calculate proper speeds and feeds. Manufacture basic 3-D parts using the milling process. Prerequisite: MTEC 1210. (WE)

MTEC 2120. Millwright II

Lecture 1, Lab 3, Credit 4

Rigging, setting baseplates and soleplates, lubrication, and introduction to bearings.

Prerequisite: MTEC 1220.

MTEC 2133. Computer Numerical Control II (CNC)

Lecture 1, Lab 2, Credit 3

Focuses on numerical control techniques in metal forming and machine processes. Includes intermediate theory and practice in lathe and milling machine computer numerical control program writing, setup, and operation. Prerequisites: MTEC 1232

SEMESTER IV

MTEC 2210. Advance Machinist

Lecture 1, Lab 3, Credit 4

Advanced Lathe: Perform steady rest counter bores, turn tapers, thread, and other advanced cutting operations.

Advanced mill: How to cut keyways and calculate indexing, pocket milling, boring, and other advanced milling operations. Prerequisite: MTEC 2110. (WE)

MTEC 2220. Advanced Millwright

Lecture 1, Lab 3, Credit 4

AAS – Machine Tool Technology (60 credit hours / 1350 contact hours)

Trade math, precision measuring tools, installing packing, installing seals, installing mechanical seals, removing, and installing bearings, couplings, fabricating shims, alignment fixtures, and specialty jigs, pre-alignment for equipment installation, installing belt and chain drives and installing fans and blowers.
Prerequisite: MTEC 2120. (WE)

MTEC 2234. Computer Numerical Control III (CNC)

Lecture 1, Lab 3, Credit 4

Focuses on numerical control techniques in metal forming and machine processes. Includes advanced theory and practice in lathe and milling machine computer numerical control program writing, setup, and operation. Part III of III

Prerequisites: MTEC 2133

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F.5.SOWELA Consent April 2023

Final Audit Report

2023-04-10

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