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Louisiana
Community
& Technical
College System

265 South Foster Drive
Baton Rouge, LA 70806

Phone: 225-922-2800
Fax: 225-922-1185

www.lctcs.edu

APPROVED

Signature and date 10/14/20
LCTCS BOARD OF SUPERVISORS

TO: Dr. Monty Sullivan
LCTCS President
THROUGH: Dr. René Cintrón
Chief Education and Training Officer
FROM: Dr. Adrienne Fontenot
Director of Adult Learning and Educational Programs
DATE: September 28, 2020
SUBJECT: Program Requests at Baton Rouge Community College

FOR BOARD ACTION:

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

Program Additions

- 1. Technical Diploma (TD) in Millwright Level 4 (CIP 47.0303) - 5 STARS
a. Certificate of Technical Studies (CTS) in Millwright Level 2 (CIP 47.0303) - 5 STARS
b. Career and Technical Certificate (CTC) in Millwright Level 1 with an IBC in Millwright Level 1 from the National Center for Construction Education and Research (NCCER), (CIP 47.0303) - 5 STARS
2. Career and Technical Certificate (CTC) in Non-Structural Technician with an IBC in I-CAR Non-Structural Technician from I-CAR, (CIP 47.0603) - 4 STARS
3. Career and Technical Certificate (CTC) in Electrical Level 1 with an IBC in Electrical Level 1 from the National Center for Construction Education and Research (NCCER), (CIP 46.0302) - 5 STARS
4. Career and Technical Certificate (CTC) in Instrumentation Level 1 with an IBC in Instrumentation Level 1 from the National Center for Construction Education and Research (NCCER), (CIP 15.0404) - 5 STARS
5. Career and Technical Certificate (CTC) in Pipefitting Level 1 with an IBC in Pipefitting Level 1 from the National Center for Construction Education and Research (NCCER), (CIP 46.0502) - 5 STARS
6. Career and Technical Certificate (CTC) in Drafting Fundamentals with an IBC in Autodesk AutoCAD from Autodesk, Inc., (CIP 15.1301)- 4 STARS

Program Modifications

- 7. Concentrations under the Associate of Applied Science (AAS) in Technical Studies, (CIP 47.9999)
a. Drafting and Design Technology concentration:
i. Technical Diploma (TD) in Drafting and Design Technology, (CIP 15.1301) - 4 STARS
ii. Certificate of Technical Studies (CTS) in Engineering Aid, (CIP 15.1301) - 4 STARS
b. Electrical concentration:
i. Technical Diploma (TD) in Electrical Level 4, (CIP 46.0302) - 5 STARS

- ii. Certificate of Technical Studies (CTS) in Electrical Level 2, (CIP 46.0302) – **5 STARS**
- c. Instrumentation concentration:
 - i. Technical Diploma (TD) in Instrumentation Level 4, (CIP 15.0404) – **5 STARS**
 - ii. Certificate of Technical Studies (CTS) in Instrumentation Level 2, (CIP 15.0404) – **5 STARS**
- d. Pipefitting concentration:
 - i. Technical Diploma (TD) in Pipefitting Level 4, (CIP 46.0502) – **5 STARS**
 - ii. Certificate of Technical Studies (CTS) in Pipefitting Level 2, (CIP 46.0502) – **5 STARS**

Program Terminations

- 8. Technical Diploma (TD) in Millwright Level 5, (CIP 47.0303) – **5 STARS**
 - a. Certificate of Technical Studies (CTS) in Millwright Level 3, (CIP 47.0303) – **5 STARS**
- 9. Certificate of Technical Studies (CTS) in Automotive Drivability Technician, (CIP 47.0604) – **4 STARS**

Background: Baton Rouge Community College (BRCC) is requesting to reorganize their Associate of Applied Science (AAS) in Technical Studies program. The reorganization of content in all programs benefits students by reducing the time to program completion and expediting their entry into the workforce. With the removal barriers for individuals pursuing these credentials, BRCC is poised to meet the employment demand of these industries. Students will begin matriculating through the curriculum as cohorts, therefore, increasing student credit hours and student completion rates. A positive impact on revenue is expected to be observed by using the cohort model.

Proposed program additions include new CTCs that will be embedded in existing awards and will permit students to be competitive in the job market while pursuing their education or, if circumstances warrant, during a hiatus from pursuing a higher award. The new Millwright TD and CTS have been developed as a result of program review and are proposed to replace existing awards at the same levels.

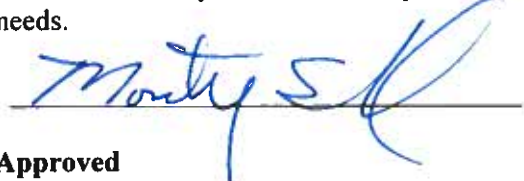
All of the proposed modifications result from review of the concentrations in the Technical Studies AAS and an initiative at BRCC to reduce the number of technical courses and semesters to completion of a technical diploma. The Drafting and Design Technology concentration has been completely revised to meet industry standards.

Course-level changes in the Automotive Technology curriculum created extensive (in excess of 50%) overlap between the Drivability Technician CTS and another CTS in the program, requiring deletion of one of the awards. Deletion of the Millwright programs is associated with the initiative to reduce the number of technical courses and semesters required for completing the programs of study; new awards at the same level have been proposed to replace those proposed for deletion.

Fiscal Impact: The administrative structure will not change. There are no anticipated expenditures associated with these changes unless otherwise noted.

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

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

A handwritten signature in blue ink, appearing to read "Monty Sullivan", written over a horizontal line.

Approved
Dr. Monty Sullivan

10-14-20

Date



September 11, 2020

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

Attention: René Cintrón, Ph.D., LCTCS Chief Academic Affairs Officer
Adrienne Fontenot, Ed.D., Director of Adult Learning and Educational Programs

Dear Drs. Fontenot and Cintrón:

Baton Rouge Community College (BRCC) requests the approval of the Board of Supervisors of the Louisiana Community and Technical College System (LCTCS) to implement the following curricular actions, to be effective Spring 2021.

Program Additions:

1. Structural Technician, Certificate of Technical Studies (CTS), CIP 47.0603 – 4 Stars
2. Non-Structural Technician, Career and Technical Certificate (CTC), CIP 47.0603 – 4 Stars
3. Drafting Fundamentals, Career and Technical Certificate (CTC), CIP 15.1301 – 4 Stars
4. NCCER Electrical Level 1, Career and Technical Certificate (CTC), CIP 46.0302 – 5 Stars
5. NCCER Instrumentation Level 1, Career and Technical Certificate (CTC), CIP 15.0404 – 5 Stars
6. NCCER Millwright Level 4, Technical Diploma (TD), CIP 47.0303 – 5 Stars
7. NCCER Millwright Level 2, Certificate of Technical Studies (CTS), CIP 47.0303 – 5 Stars
8. NCCER Millwright Level 1, Career and Technical Certificate (CTC), CIP 47.0303 – 5 Stars
9. NCCER Pipefitting Level 1, Career and Technical Certificate (CTC), CIP 46.0302 – 5 Stars

Justification for Program Additions: New career and technical certificates (CTCs) and the Structural Technician certificate of technical studies (CTS) will be embedded in existing awards and will permit students to be competitive in the job market while pursuing their education or, if circumstances warrant, during a hiatus from pursuing a higher award. The new Millwright technical diploma (TD) and CTS have been developed as a result of program review and are proposed to replace existing awards at the same levels (see Program Deletions, below).

Program Modifications:

10. Technical Studies Associate of Applied Science (AAS), CIP 47.9999 – 0 Stars
 - a. Drafting and Design Technology concentration:
 - i. Drafting and Design Technology, Technical Diploma (TD), CIP 15.1301 – 4 Stars
 - ii. Engineering Aid, Certificate of Technical Studies (CTS), CIP 15.1301 – 4 Stars
 - b. Electrical concentration:
 - i. NCCER Electrical Level 4, Technical Diploma (TD), CIP 46.0302 – 5 Stars
 - ii. NCCER Electrical Level 2, Certificate of Technical Studies (CTS), CIP 46.0302 – 5 Stars
 - c. Instrumentation concentration:
 - i. NCCER Instrumentation Level 4, Technical Diploma (TD), CIP 15.0404 – 5 Stars
 - ii. NCCER Instrumentation Level 2, Certificate of Technical Studies (CTS), CIP 15.0404 – 5 Stars
 - d. Millwright concentration: certificate program deletions and additions; technical diploma deletion and addition (listed above and below)
 - e. Pipefitting concentration:
 - i. NCCER Pipefitting Level 4, Technical Diploma (TD), CIP 46.0502 – 5 Stars
 - ii. NCCER Pipefitting Level 2, Certificate of Technical Studies (CTS), CIP 46.0502 – 5 Stars

Justification for Program Modifications: All of the proposed modifications result from review of the concentrations in the Technical Studies AAS and an initiative at BRCC to reduce the number of technical courses and semesters to completion of a technical diploma. The Drafting and Design Technology concentration has been completely revised to industry standards.

Program Deletions:

11. Automotive Drivability Technician, Certificate of Technical Studies (CTS), CIP 47.0604 – 4 Stars
12. NCCER Millwright Level 5, Technical Diploma (TD), CIP 47.0303 – 5 Stars
13. NCCER Millwright Level 3, Certificate of Technical Studies (CTS), CIP 47.0303 – 5 Stars

Justification for Program Deletions: Course-level changes in the Automotive Technology curriculum created extensive (in excess of 50%) overlap between the Drivability Technician CTS and another CTS in the program, requiring deletion of one of the awards. Deletion of the Millwright programs is associated with the initiative to reduce the number of technical courses and semesters required for completing the programs of study; new awards at the same level have been proposed to replace those proposed for deletion (see Program Additions).

Please let me know if additional information is needed. Thank you for your consideration of this request.

Sincerely,

Sarah Barlow

Sarah Barlow, Ph.D.
Interim Vice Chancellor for Academic and Student Affairs

Cc: Willie E. Smith, Sr., Ed.D., Chancellor
Margaret McMichael, Ph.D., Director of Curriculum and Articulation



LOUISIANA'S COMMUNITY & TECHNICAL COLLEGE SYSTEM

Requests for Programs: New, Modification, and Adoption

Baton Rouge Community College

TYPE OF PROPOSED CHANGE

New Program

Curriculum Modification

Curriculum Adoption

Program Name: Auto Drivability Technician CTS
Structural Technician CTS
Non-Structural Technician CTC
Technical Studies AAS, Drafting and Design Technology Concentration
Drafting and Design Technician TD
Engineering Aid CTS
Drafting Fundamentals CTC
Technical Studies AAS, Electrical Concentration
NCCER Electrical Level 4 TD
NCCER Electrical Level 2 CTS
NCCER Electrical Level 1 CTC
Technical Studies AAS, Instrumentation Concentration
NCCER Instrumentation Level 4 TD
NCCER Instrumentation Level 1 CTC
Technical Studies AAS, Millwright Concentration
NCCER Millwright Level 5 TD
NCCER Millwright Level 4 TD
NCCER Millwright Level 3 CTS
NCCER Millwright Level 2 CTS
NCCER Millwright Level 1 CTC
Technical Studies AAS, Pipefitting Concentration
NCCER Pipefitting Level 4 TD
NCCER Pipefitting Level 2 CTS
NCCER Pipefitting Level 1 CTC

AWARD LEVEL(S)	
For Board of Regents and LCTCS Review:	For LCTCS Review:
<input checked="" type="checkbox"/> Associate of Applied Science (A.A.S.)	<input checked="" type="checkbox"/> Technical Diploma (T.D.)
<input type="checkbox"/> Associate of Science (A.S.)	<input checked="" type="checkbox"/> Career and Technical Certificate (C.T.C)
<input type="checkbox"/> Associate of Arts (A.A.)	<input checked="" type="checkbox"/> Certificate of Technical Studies (C.T.S.)
<input type="checkbox"/> Other Associate Degree	
Name:	
<input type="checkbox"/> Certificate of Applied Science (C.A.S.)	
<input type="checkbox"/> Certificate of General Studies (C.G.S.)	

Name: Drivability Technician – 4 Stars (deletion)			
CIP: 47.0604	Credit Hours: 24	Contact Hours: 630	Award Level: CTS
Name: Structural Technician – 4 Stars (addition)			
CIP: 47.0603	Credit Hours: 22	Contact Hours: 465	Award Level: CTS
Name: Non-Structural Technician – 4 Stars (addition)			
CIP: 47.0603	Credit Hours: 11	Contact Hours: 225	Award Level: CTC
Name: Technical Studies, Drafting and Design Technology Concentration – 4 Stars (modification)			
CIP: 47.9999	Credit Hours: 60	Contact Hours: N/A	Award Level: AAS
Name: Drafting and Design Technician – 4 Stars (modification)			
CIP: 15.1301	Credit Hours: 45	Contact Hours: Current: 1365 Revised: 1020-1065	Award Level: TD
Name: Engineering Aid - 4 Stars (modification)			
CIP: 15.1301	Credit Hours Current: 27 Revised: 24	Contact Hours Current: 795 Revised: 570	Award Level: CTS
Name: Drafting Fundamentals - 4 Stars (addition)			
CIP: 15.1301	Credit Hours: 9	Contact Hours: 225	Award Level: CTC
Name: Technical Studies, Electrical Concentration – 5 Stars (modification)			
CIP: 47.9999	Credit Hours: 60	Contact Hours: N/A	Award Level: AAS

Name: NCCER Electrical Level 4- 5 Stars (modification)			
CIP: 46.0302	Credit Hours: 45	Contact Hours Current: 825 Revised: 1125	Award Level: TD
Name: NCCER Electrical Level 2 - 5 Stars (modification)			
CIP: 46.0302	Credit Hours Current: 21 Revised: 24	Contact Hours Current: 405 Revised: 600	Award Level: CTS
Name: NCCER Electrical Level 1 - 5 Stars (addition)			
CIP: 46.0302	Credit Hours: 12	Contact Hours: 300	Award Level: CTC
Name: Technical Studies, Instrumentation Concentration - 5 Stars (modification)			
CIP: 47.9999	Credit Hours: 60	Contact Hours: N/A	Award Level: AAS
Name: NCCER Instrumentation Level 4 – 5 Stars (modification)			
CIP: 15.0404	Credit Hours: 45	Contact Hours: 1125	Award Level: TD
Name: NCCER Instrumentation Level 1 – 5 Stars (addition)			
CIP: 15.0404	Credit Hours: 12	Contact Hours: 300	Award Level: CTC
Name: Technical Studies, Millwright Concentration - 5 Stars (modification)			
CIP: 47.9999	Credit Hours: 60	Contact Hours: N/A	Award Level: AAS
Name: NCCER Millwright Level 5 – 5 Stars (deletion)			
CIP: 47.0303	Credit Hours: 45	Contact Hours: 1125	Award Level: TD
Name: NCCER Millwright Level 4 – 5 Stars (addition)			
CIP: 47.0303	Credit Hours: 45	Contact Hours: 1125	Award Level: TD
Name: NCCER Millwright Level 3 – 5 Stars (deletion)			
CIP: 47.0303	Credit Hours: 27	Contact Hours: 675	Award Level: CTS
Name: NCCER Millwright Level 2 – 5 Stars (addition)			
CIP: 47.0303	Credit Hours: 24	Contact Hours: 600	Award Level: CTS
Name: NCCER Millwright Level 1 – 5 Stars (addition)			
CIP: 47.0303	Credit Hours: 12	Contact Hours: 300	Award Level: CTC

Name: Technical Studies, Pipefitting Concentration - 5 Stars (modification)			
CIP: 47.9999	Credit Hours: 60	Contact Hours: N/A	Award Level: AAS
Name: NCCER Pipefitting Level 4 - 5 Stars (modification)			
CIP: 46.0502	Credit Hours: 45	Contact Hours Current: 810 Revised: 1125	Award Level: TD
Name: NCCER Pipefitting Level 2 - 5 Stars (modification)			
CIP: 46.0502	Credit Hours Current: 21 Revised: 24	Contact Hours Current: 390 Revised: 600	Award Level: CTS
Name: NCCER Pipefitting Level 1 - 5 Stars (addition)			
CIP: 46.0502	Credit Hours: 12	Contact Hours: 300	Award Level: CTC

IBC	Issuing Body	Course Title	Course Prefix	Course Number	Credits Awarded
I-CAR Non-Structural Technician	I-CAR	Non-Structural Damage	CLRP	1105	5
Autodesk AutoCAD® Certified User	Autodesk, Inc.	Engineering Drafting	DRFT	1123	3
Core Curriculum	NCCER	Introduction to Craft Skills	CORE	1003	3
Electrical Level 1	NCCER	Electrical Level 1	ELEC	1119	9
Instrumentation Level 1	NCCER	Instrumentation Level 1	INST	1119	9
Millwright Level 1	NCCER	Millwright Level 1	MILL	1119	9
Pipefitting Level 1	NCCER	Pipefitting Level 1	PIPE	1119	9

PROPOSED CHANGE

a) For New Programs, state the purpose and objective; b) For Curriculum Modifications, state previous credit and clock hours; c) For Program Termination, state program and all award levels; d) For Curriculum Adoption, state the college from which curriculum is being adopted and the date it was approved by LCTCS.

Automotive Technology – Appendix A

- 1) Drivability Technician CTS (CIP 47.0604) - 4 Stars: delete the award.

Auto Body Repair – Appendix A

- 2) Structural Technician CTS (CIP 47.0603) - 4 Stars: add a new award.
- 3) Non-Structural Technician CTC (CIP 47.0603) - 4 Stars: add a new award.

Technical Studies Associate of Applied Science (CIP 47.9999)

- 4) Drafting and Design Technology Concentration, Appendix B. Modifications include new drafting (DRFT) courses to meet industry standards and include both required and elective ARTS courses, a required course in Computer Science, and electives in Arts, Construction Management, Process Technology, and Speech (new DRFT courses are described in Appendix G).
 - a. Drafting and Design Technician TD (CIP 15.1301) – 4 Stars: modify the award by deleting 18 CADD and DRFT courses, adding nine new DRFT courses to replace the deleted courses, integrating existing courses from different disciplines (Arts, Computer Science, Construction Management, CORE, Process Technology, and Speech), and reducing the overall instructional contact hours (from 1365 to 1020-1065, depending on the electives taken).
 - b. Engineering Aid CTS (CIP 15.1301) – 4 Stars: modify the award by deleting 10 CADD and DRFT courses, adding of six new DRFT course, integrating two existing courses in other disciplines, reducing the credit hours from 27 to 24, and decreasing the overall instructional contact hours from 795 to 570.
 - c. Drafting Fundamentals CTC (CIP 15.1301) – 4 Stars: add a new award.
- 5) Electrical Concentration, Appendix C. Modifications include reducing the number of technical courses in the concentration (deleting five courses and adding four new courses) while retaining the overall content of the program (new ELEC courses and the courses they replace are described in Appendix G). Modifications are proposed to embedded awards, including the addition of a new career and technical certificate (CTC).
 - a. NCCER Electrical Level 4 TD (CIP 46.0302) - 5 Stars: modify the award by deleting five courses and replacing them with four new courses covering the same content but with different lecture, lab, and credit hours (Appendix G). A consequence of the course-level changes is a 36% increase in instructional contact time (from 825 to 1125 hours).
 - b. NCCER Electrical Level 2 CTS (CIP 46.0302) - 5 Stars: modify the award by deleting one course and replacing it with a new course with different lecture and lab instructional contact hours, and three more credit hours, which result in an increase in the credit hours (from 21 to 24) and instructional contact hours (from 405 to 600) for the program.
 - c. NCCER Electrical Level 1 CTC (CIP 46.0302) - 5 Stars: add a new award.

- 6) Instrumentation Concentration, Appendix D (modification). Course-level changes impacting the concentration include reducing the overall number of technical courses required for completion (deleting the 14 existing INST courses and adding six new INST courses containing the same overall content but with different lecture, lab, instructional contact, and credit hours; see Appendix G). Additional features of the new courses include prerequisites and co-requisites. The course-level changes retain not only the program content but also the credit and instructional contact hours for all embedded awards. An additional modification is the addition of a new career and technical certificate (CTC), NCCER Instrumentation Level 1 CTC.
- a. NCCER Instrumentation Level 4 TD (CIP 15.0404) - 5 Stars: modify the award by reducing the number of technical courses required for completing the program (from 14 to six). Other course-level changes ensure students enroll and complete the award in cohorts and in fewer semesters.
 - b. NCCER Instrumentation Level 2 CTS (CIP 15.0404) - 5 Stars: modify the award by reducing the number of course required for completing the award (deleting the seven existing INST courses and replacing them with three new INST course). Program content, credit hours, and instructional contact hours will not be altered by the course-level changes.
 - c. NCCER Instrumentation Level 1 CTC (CIP 15.0404) - 5 Stars: add a new award.
- 7) Millwright Concentration, Appendix E (modification). Modifications include the elimination of the Level 5 coursework (requiring deletion of the Level 5 TD and replacing it with a Level 4 TD; moving the Level 3 content from the CTS requires elimination of the Level 3 CTS and replacing it with a Level 2 CTS) and the addition of a new career and technical certificate (CTC), NCCER Millwright Level 1. Course-level changes (deletion of 14 existing MILL courses and adding six new courses for Levels 1-4); see Appendix G) impact the credit hours and instructional contact hours for all technical awards.
- a. NCCER Millwright Level 5 TD (CIP 47.0303) - 5 Stars: deleting the award is necessary because the Level 5 content (and courses) is being deleted. The TD is to be replaced by a new Level 4 TD.
 - b. NCCER Millwright Level 4 TD (CIP 47.0303) - 5 Stars: add a new award at Level 4 to replace the Level 5 TD proposed for deletion. Course-level changes will reduce the number of technical courses and semesters required for completion of this new award compared to the TD proposed for deletion.
 - c. NCCER Millwright Level 3 CTS (CIP 47.0303) - 5 Stars: deleting the award will reflect the transfer of the Level 3 content out of the certificate level to only the technical diploma.
 - d. NCCER Millwright Level 2 CTS (CIP 47.0303) - 5 Stars: add a new award at Level 2, a consequence of the elimination of the Level 5 content from the curriculum and transfer of the Level 3 content out of the certificate level.

Course-level changes will reduce the number of technical courses and semesters required for completion of the award.

- e. NCCER Millwright Level 1 CTC (CIP 47.0303) - 5 Stars: add a new award.
- 8) Pipefitting Concentration, Appendix F (modification). Course-level changes impacting the concentration include reducing the overall number of technical courses required for completion (deleting five existing PIPE courses and adding four new PIPE courses containing the same overall content but with different lecture, lab, instructional contact, and credit hours; see Appendix G). The course-level changes impact the credit and instructional contact hours for the existing technical awards (technical diploma and certificate of technical studies). Includes the addition of a new CTC exit point, NCCER Pipefitting Level 1 CTC.
- a. NCCER Pipefitting Level 4 TD (CIP 46.0502) - Stars: modify the award by replacing one of the existing courses (deleting five existing courses and replacing them with four new courses with different lecture, lab, instructional contact hours, and credit hours), and increasing the instructional contact hours by 36% (from 810 to 1125 hours).
 - b. NCCER Pipefitting Level 2 CTS (CIP 46.0502) - Stars: modify the award by deleting one course and replacing it with a new course with different lecture and lab instructional contact hours, and three more credit hours, and modifying two existing courses – all of which result in an increase in the credit hours (from 21 to 24) and instructional contact hours (from 390 to 600) for the program.
 - c. NCCER Pipefitting Level 1 CTC (CIP 46.0502) - Stars: add a new award.

IMPLEMENTATION DATE (Semester and Year)	Spring 2021
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HISTORY OF PRIOR ACTIONS

Provide an overview of changes to this program.

In September 2016, the following programs were submitted and approved:

- 1) Technical Diploma (TD) in NCCER Millwright Level 5 (CIP 47.0303)
- 2) Certificate of Technical Studies (CTS) in NCCER Millwright Level 3 (CIP 47.0303)
- 3) Technical Competency Area (TCA) in NCCER Millwright Level 1 (CIP 47.0303)
- 4) Technical Diploma (TD) in NCCER Instrumentation Level 4 (CIP 15.0404)
- 5) Certificate of Technical Studies (CTS) in NCCER Instrumentation Level 2 (CIP 15.0404)
- 6) Technical Competency Area (TCA) in NCCER Instrumentation Level 1 (CIP 15.0404)

In May 2017, the following changes were submitted and approved:

- 1) Incorporation of the Drafting and Design technical credentials (CIP code 15.1301) as a concentration in the Technical Studies AAS.

In November 2017, the following programs were submitted and approved:

- 1) Technical Diploma (TD) in NCCER Electrical Level 4 (CIP 46.0302)
- 2) Certificate of Technical Studies (CTS) in NCCER Electrical Level 2 (CIP 46.0302)
- 3) Technical Diploma (TD) in NCCER Pipefitting Level 4 (CIP 46.0502)
- 4) Certificate of Technical Studies (CTS) in NCCER Pipefitting Level 2 (CIP 46.0502)

In June 2018, the LCTCS Board of Supervisors approve the deletion of the following Technical Competency Area (TCA):

- 1) Engineering Aid I, CIP 15.1301 – 3 Stars

In May 2019, the following program changes were submitted and approved:

- 1) Automotive Technology Associate of Applied Science (AAS), CIP Code 47.0604 – 5 Stars. Eliminate the degree option in Automotive Technology, retaining the embedded credentials (Automotive Technician Technical Diploma (TD), Auto Electrical Systems Technician Certificate of Technical Studies (CTS), Auto Drivetrain Technician CTS, Auto Suspension, Steering, and Brakes CTS, and Auto Drivability Technician CTS) and incorporating them into the Vehicle Maintenance and Repair Technologies AAS as an Automotive Technology concentration.
- 2) Vehicle Maintenance and Repair Technologies Associate of Applied Science (AAS), CIP Code 47.0600 – 4 Stars. Add a concentration in Automotive Technology, with embedded credentials (Automotive Technician Technical Diploma (TD), Auto Electrical Systems Technician Certificate of Technical Studies (CTS), Auto Drivetrain Technician CTS, Auto Suspension, Steering, and Brakes CTS, and Auto Drivability Technician CTS).

In July 2019, the LCTCS Board of Supervisors approved the deletion of the following TCA:

- 1) NCCER Instrumentation Level 1, CIP 15.0404 – 2 Stars

JUSTIFICATION FOR THE PROPOSED CHANGE

Include support such as four-year university agreements, industry demand, advisory board information, etc.

Automotive Technology (CIP 47.0604)

- 1) Drivability Technician CTS (deletion): Planned course-level changes in the overall program of study for the Automotive Technician technical diploma (TD) will result in significant overlap in the required courses for both this award and the Automotive Electrical Systems Technician CTS (less than 50% difference in the required courses and total credit hours for both awards). The division selected this award for deletion based on workforce needs and employability prospects for completers of the Automotive Electrical Systems Technician CTS.

Auto Body Repair (CIP 47.0603) – Appendix A

- 2) Structural Technician CTS (addition): The proposed new CTS provides students with the skills needed to assist technicians in creating proper repair plans for a vehicle. This new certificate program will provide an additional exit point for Auto Body Repair students who are pursuing the Auto Body Repair Technician (TD) who may not be able to complete the TD as planned while providing completers with an industry-recognized credential intended to improve competitiveness in the job market. For continuing students, it will serve as a motivating step toward completion of the TD and the Vehicle Maintenance and Repair Technologies AAS. It will also increase the number of completers for the college.
- 3) Non-Structural Technician CTC (addition): The proposed new CTC provides students with the skills needed to assist technicians in restoring damaged exterior panels to the original appearance, integrity, and function. This new certificate program will provide an additional exit point for Auto Body Repair students who are pursuing the Auto Body Repair Technician (TD) who may not be able to complete the TD as planned while providing completers with an industry-recognized credential intended to improve competitiveness in the job market. For continuing students, it will serve as a motivating step toward completion of subsequent awards, including CTSs, the TD, and the Vehicle Maintenance and Repair Technologies AAS. It will also increase the number of completers for the college.

Technical Studies AAS (CIP 47.9999) – Appendices B-F

- 4) Drafting and Design Technology Concentration, Appendix B (modification): the updated program of study reflects not only the variety of engineering disciplines dependent of drafting technicians but also provides students with electives that are expected to address the varied interests of students and their employment goals.
 - a. Drafting and Design Technician TD, CIP 15.1301 (modification): The new DRFT courses represent current industry standards, with lecture and lab time required to present course content and allow for students to demonstrate achievement of the course (and program) learning outcomes. The required and elective courses in other disciplines are intended to address the varied interests of students and their employment goals.
 - b. Engineering Aid CTS, CIP 15.1301 (modification): The new DRFT courses represent current industry standards, with lecture and lab time required to present course content and allow for students to demonstrate achievement of the course (and program) learning outcomes. Required existing courses integrated into the program are consistent with the degree and broaden the skill sets of completers of the award.
 - c. Drafting Fundamentals CTC (addition): The proposed new CTC provides students with the skills needed to prepare plans for conceptual to full construction plans for various products in entry-level positions. This new certificate program will provide an exit point for Drafting and Design

Technology students who are pursuing the Drafting and Design Technician (TD) but are unable to complete their education as planned; exiting students will have industry-recognized credentials intended to improve their competitiveness in the job market. For continuing Drafting and Design Technology students, the award serves as a motivating step toward completion of subsequent technical awards as well as the Technical Studies degree. It will also increase the number of completers for the college.

- 5) Electrical Concentration, Appendix C (modification): The new courses realistically represent the amount of lecture and lab time required to present course content and allow for students to demonstrate achievement of the course (and program) learning outcomes. Students will enroll and complete the program in cohorts and in fewer semesters, expediting their entry into the workforce. Includes the addition of a new CTC exit point, NCCER Electrical Level 1 CTC.
 - a. NCCER Electrical Level 4 TD, CIP 46.0302 (modification): Course-level changes that impact the changes to instructional contact hours more realistically represent the amount of lecture and lab time required to present course content and allow for students to demonstrate achievement of the course (and program) learning outcomes.
 - b. NCCER Electrical Level 2 CTS, CIP 46.0302 (modification): Course-level changes that impact the credit and instructional contact hours for the award more realistically represents the amount of lecture and lab time required to present course content and allow for students to demonstrate achievement of the course (and program) learning outcomes.
 - c. NCCER Electrical Level 1 CTC, CIP 46.0302 (addition): The proposed new CTC provides students with the skills needed to assist Electricians with electrical wiring and technical support. This new certificate program will provide an exit point for Electrical students who are pursuing the NCCER Electrical Level 4 (TD) but are unable to continue their education as planned; exiting students will have industry-recognized credentials intended to improve their competitiveness in the job market. For continuing students, the award serves as a motivating step toward completion of additional technical awards as well as the Technical Studies degree. It will also increase the number of completers for the college.

- 6) Instrumentation Concentration, Appendix D (modification): Reducing the number of courses required for completion of the concentration, along with prerequisite and co-requisite changes, will simplify course scheduling and determination of faculty workload and will result in students enrolling and completing the technical courses and awards as cohorts in fewer semesters, thus expediting their entry into the workforce.

- a. NCCER Instrumentation Level 4 TD, CIP 15.0404 (modification): Program content, credit hours, and instructional contact hours are not impacted by the course-level changes. However, reducing the number of courses and semesters required for completing the award expedites entry of completers into the workforce, even for those students electing to complete the Technical Studies AAS.
 - b. NCCER Instrumentation Level 2 CTS, CIP 15.0404 (modification): Course-level changes reduce the number of technical courses required for completion of the award and allow students to earn this award after the second semester in the program. Program content, credit hours, and instructional contact time are not impacted by the course-level changes.
 - c. NCCER Instrumentation Level 1 CTC, CIP 15.0404 (addition): The proposed new CTC provides students with the skills needed to assist Instrument Technicians with reading and correlating schematics and troubleshooting blueprints. This new certificate program will provide an exit point for Instrumentation students who are pursuing the NCCER Instrumentation Level 4 (TD) but are unable to continue their education as planned; completers will leave with industry-recognized credentials intended to improve their competitiveness in the job market. For continuing students, the award serves as a motivating step toward completion of additional technical awards as well as the Technical Studies degree. It will also increase the number of completers for the college.
- 7) Millwright Concentration, Appendix E (modification): Elimination of the Level 5 coursework impacts the existing TD and CTS, including a reduction in the number of technical courses and semesters required for completing the awards – and thus expediting the completion of the degree as well as of the embedded technical awards.
- a. NCCER Millwright Level 5 TD, CIP 47.0303 (deletion): Elimination of the Level 5 coursework will not have a negative impact on employment options for completers of the award and will have a positive impact on how quickly students are able to complete the TD and enter the workforce. Elimination of the content requires a different title to the award; since the existing courses are being replaced, the current award needs to be deleted.
 - b. NCCER Millwright Level 4 TD, CIP 47.0303 (addition): The proposed new TD replaces the NCCER Millwright Level 5 TD proposed for deletion. The program content has been reorganized at the course level. Level 4 will be the highest NCCER level in the program, to be reflected in the proposed new TD. Students will be well-prepared for the job market upon completion of four levels of NCCER Millwright.
 - c. NCCER Millwright Level 3 CTS, CIP 47.0303 (deletion): Reorganization of program content at the course-level and the transfer of the Level 3 content

- out of the CTS require elimination of this award and its concurrent replacement with a new CTS named for its content.
- d. NCCER Millwright Level 2 CTS, CIP 47.0303 (addition): The proposed new CTS replaces the NCCER Millwright Level 3 CTS proposed for deletion. Students who exit the program at this level will be well-prepared to enter the workforce as assistants to maintenance mechanics with NCCER Core Curriculum and two levels of NCCER Millwright.
 - e. NCCER Millwright Level 1 CTC, CIP 47.0303 (addition): The proposed new CTC provides students with the skills needed to assist higher-level maintenance mechanics with repairs and preventative maintenance functions. This new certificate program will provide an exit point for Millwright students who are pursuing the NCCER Millwright Level 4 (TD) but are unable to continue their education as planned; completers will leave with industry-recognized credentials intended to improve their competitiveness in the job market. For continuing students, the award serves as a motivating step toward completion of additional technical awards as well as the Technical Studies degree. It will also increase the number of completers for the college.
- 8) Pipefitting Concentration, Appendix F (modification): Reducing the number of courses required for completion of the concentration, along with prerequisite and co-requisite changes, will simplify course scheduling and determination of faculty workload and will result in students enrolling and completing the technical courses and awards as cohorts in fewer semesters, thus expediting their entry into the workforce.
- a. NCCER Pipefitting Level 4 TD, CIP 46.0502 (modification): Course-level changes that impact the changes to instructional contact hours more realistically represent the amount of lecture and lab time required to present course content and allow for students to demonstrate achievement of the course (and program) learning outcomes.
 - b. NCCER Pipefitting Level 2 CTS, CIP 46.0502 (modification): Course-level changes that impact the credit and instructional contact hours for the award more realistically represents the amount of lecture and lab time required to present course content and allow for students to demonstrate achievement of the course (and program) learning outcomes.
 - c. NCCER Pipefitting Level 1 CTC, CIP 46.0502 (creation): The proposed new CTC provides students with the skills needed to assist a journeyman in the layout, assembly, or installation of accessories or equipment. This new certificate program will provide an additional exit point for Pipefitting students who are pursuing the NCCER Pipefitting Level 4 (TD) but are unable to continue their education as planned; completers will leave with industry-recognized credentials intended to improve their competitiveness in the job market. For continuing students, the award serves as a

motivating step toward completion of additional technical awards as well as the Technical Studies degree. It will also increase the number of completers for the college.

LOUISIANA WORKFORCE COMMISSION STAR LEVEL (<http://www.laworks.net/Stars/>)

5 Stars
 4 Stars
 3 Stars
 2 Stars
 1 Star
 0 Stars
 (Transfer)

SITE(S) OF NEW PROGRAM OR CURRICULUM MODIFICATION

<input type="checkbox"/> Main Campus	<input type="checkbox"/> All Locations	<input checked="" type="checkbox"/> Sites (list below)	<input type="checkbox"/> Distance Education
Site 1: Acadian			
Site 2: Ardendale			
Site 3: Central			
Site 4: Jackson			
Site 5: New Roads			
Site 6: Port Allen			

QUALIFIED FACULTY (Check all that apply)

<input checked="" type="checkbox"/> Use Existing Faculty <u>#: 5</u>	<input checked="" type="checkbox"/> Hire Adjunct Faculty <u>#: 3</u>	<input type="checkbox"/> Hire Full-Time Faculty #: _____
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MINIMUM CREDENTIALS REQUIRED FOR FACULTY - AUTOMOTIVE

Education: N/A	Experience: Minimum of five (5) years recent work experience in the discipline	Certification: ASE Automobile Master Certification
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MINIMUM CREDENTIALS REQUIRED FOR FACULTY – AUTO BODY REPAIR

Education: Associate's degree	Experience: Minimum of five (5) years of recent work experience in the field of study.	Certification: I-Car Certification in instruction area.
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MINIMUM CREDENTIALS REQUIRED FOR FACULTY - DRAFTING

Education: Associate's degree	Experience: Minimum of five (5) years of work experience in the field of study	Certification: Industry-based certifications
MINIMUM CREDENTIALS REQUIRED FOR FACULTY - ELECTRICAL		
Education: Associate's degree	Experience: Minimum of five (5) years of recent related work experience	Certification: NCCER Electrical Certification
MINIMUM CREDENTIALS REQUIRED FOR FACULTY - INSTRUMENTATION		
Education: Associate's degree	Experience: Minimum of five (5) years of recent related work experience	Certification: NCCER instrumentation Certification
MINIMUM CREDENTIALS REQUIRED FOR FACULTY - MILLWRIGHT		
Education: Associate's degree	Experience: Minimum of five (5) years of recent related work experience	Certification: NCCER Millwright Certification
MINIMUM CREDENTIALS REQUIRED FOR FACULTY - PIPEFITTING		
Education: Associate's degree	Experience: Minimum of five (5) years of recent related work experience	Certification: NCCER Pipefitting Certification

FISCAL IMPACT: ADMINISTRATION and IMPLEMENTATION COSTS

Department: Technical Education

Describe how this change will affect the administrative structure and/or allocation of departmental funds in terms of faculty, facilities, support, and any other resources.

These changes do not affect the administrative structure and/or allocation of departmental funds.

ANTICIPATED ENROLLMENT (Automotive Technology CIP 47.0604):					
Students	2019-20	2020-21	2021-22	2022-23	2023-24
<u>Full-Time</u>	<u>8</u>	<u>30</u>	<u>45</u>	<u>60</u>	<u>75</u>
<u>Part-Time</u>	<u>30</u>	<u>15</u>	<u>0</u>	<u>0</u>	<u>0</u>

ANTICIPATED ENROLLMENT (Automotive Technology CIP 47.0604):	
Describe Process for Attaining & Estimating Enrollment:	The anticipated enrollment numbers are based on an increase in the number of student cohorts by one (1) each year, beginning 2020-21. The student cohort size is 15. Cohorts must be full-time students.

ANTICIPATED ENROLLMENT (Auto Body Repair Technician CIP 47.0603):					
Students	2019-20	2020-21	2021-22	2022-23	2023-24
<u>Full-Time</u>	1	15	30	45	60
<u>Part-Time</u>	5	0	0	0	0
Describe Process for Attaining & Estimating Enrollment:	The anticipated enrollment numbers are based on an increase in the number of student cohorts by one (1) each year, beginning 2020-21. The student cohort size is 15. Cohorts must be full-time students.				

ANTICIPATED ENROLLMENT (Drafting and Design Technician CIP 15.1301):					
Students	2019-20	2020-21	2021-22	2022-23	2023-24
<u>Full-Time</u>	1	15	30	45	60
<u>Part-Time</u>	1	0	0	0	0
Describe Process for Attaining & Estimating Enrollment:	The anticipated enrollment numbers are based on an increase in the number of student cohorts by one (1) each year, beginning 2020-21. The student cohort size is 15. Cohorts must be full-time students.				

ANTICIPATED ENROLLMENT (Electrical CIP 46.0302):					
Students	2019-20	2020-21	2021-22	2022-23	2023-24
<u>Full-Time</u>	1	15	30	45	60
<u>Part-Time</u>	1	0	0	0	0
Describe Process for Attaining & Estimating Enrollment:	The anticipated enrollment numbers are based on an increase in the number of student cohorts by one (1) each year, beginning 2020-21. The student cohort size is 15. Cohorts must be full-time students.				

ANTICIPATED ENROLLMENT (Instrumentation CIP 15.0404):					
Students	2019-20	2020-21	2021-22	2022-23	2023-24

ANTICIPATED ENROLLMENT (Instrumentation CIP 15.0404):					
<u>Full-Time</u>	:	<u>15</u>	<u>30</u>	<u>45</u>	<u>60</u>
<u>Part-Time</u>	:	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Describe Process for Attaining & Estimating Enrollment:		The anticipated enrollment numbers are based on an increase in the number of student cohorts by one (1) each year, beginning 2020-21. The student cohort size is 15. Cohorts must be full-time students.			

ANTICIPATED ENROLLMENT (Millwright CIP 47.0303):					
Students	2019-20	2020-21	2021-22	2022-23	2023-24
<u>Full-Time</u>	:	<u>15</u>	<u>30</u>	<u>45</u>	<u>60</u>
<u>Part-Time</u>	:	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Describe Process for Attaining & Estimating Enrollment:		The anticipated enrollment numbers are based on an increase in the number of student cohorts by one (1) each year, beginning 2020-21. The student cohort size is 15. Cohorts must be full-time students.			

ANTICIPATED ENROLLMENT (Pipefitting CIP 46.0502):					
Students	2019-20	2020-21	2021-22	2022-23	2023-24
<u>Full-Time</u>	:	<u>15</u>	<u>30</u>	<u>45</u>	<u>60</u>
<u>Part-Time</u>	:	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Describe Process for Attaining & Estimating Enrollment:		The anticipated enrollment numbers are based on an increase in the number of student cohorts by one (1) each year, beginning 2020-21. The student cohort size is 15. Cohorts must be full-time students.			

PROGRAM ACCREDITATION:	
Is Program Accreditation, Licensure or Certification Required?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	If YES, please provide projected accreditation/licensure/certification date:
Type/Name of Program Accreditation, Licensure or Certification Required:	N/A

PROGRAM CURRICULUM – see Appendices A-G that accompany this proposal.

Use the template below or insert separate attachment. All modifications should include the OLD and NEW curriculum with changes appropriately noted so that it is visually clear what has been added,

deleted and/or changed. Note if any special requirements, such as internships, are part of the curriculum. List all embedded IBCs. **If you are adopting curriculum, you do not need to complete this section.**

BENEFITS TO THE SYSTEM

Discuss how this change will benefit your students, your community, and the LCTCS.

The addition of the CTCs in the Drafting and Design Technology, Electrical, Instrumentation, Millwright, and Pipefitting concentrations of the Technical Studies AAS directly supports the LCTCS goal of offering credentials that can help people move into meaningful careers with sufficient income to support themselves and even a family. The programs also support the Board of Regents' Master Plan goal to see 60% of Louisiana's adult population holding a credential for the 'knowledge-based economy' by 2030.

The reorganization of content in all programs benefits students by reducing the time to program completion, expediting their entry into the workforce.

With the removal of entry barriers for individuals pursuing these credentials, Baton Rouge Community College (BRCC) is set to meet the employment demand of these industries. Students will begin matriculating through the curriculum as cohorts, therefore, increasing student credit hours and student completion rates. A positive impact on revenue is expected to be observed by using the cohort model.

According to the Louisiana Workforce Commission (LWC), employment projections are favorable for trades associated with the programs included in this proposal (Appendix H). For example:

- 1) Employment growth for Automotive Body and Related Repairers (Occupational Code 49-3021) for 2016-2026 is expected to be 8%. In 2018, the average hourly wage was \$23.18, and the average annual salary was \$48,205. [The wage and salary data assume the completion of a post-secondary non-degree award.]
- 2) Employment growth for Drafters (Occupational Codes 17-3011, 17-3012, 17-3013, 17-3019) for 2016-2026 is expected to be 7%. In 2018, the average hourly wage ranged from \$25.55 to \$33.56, and the average annual salary ranged from \$53,141 to \$69,795. [The wage and salary data assume completion of an associate degree.]
- 3) Employment growth for Electricians (Occupational Code 47-2111) for 2016-2026 is expected to be 9%. In 2018, the average hourly wage was \$25.38, and the average annual salary was \$52,800; for helpers of Electricians, the average hourly wage was \$14.82, and the average annual salary was \$30,824;

Helper earnings are, as expected, lower than for Electricians – which may be a motivator for students to complete the technical diploma and associate degree to guarantee greater income.

- 4) Employment growth for Instrumentation specialists is based on the types of occupations available to individuals with the skills associated with the training provided in the Instrumentation program rather than an occupation of 'Instrumentation Specialist'. The types of occupations dependent on knowledge, skills, and abilities obtained by students in the Instrumentation program include Precision Instrument and Equipment Repairers (Occupational Code 49-9069; average annual wage in Louisiana was \$59,800); Electrical and Electronics Repairers, Commercial and Industrial Equipment (2018 average annual hourly wage in 2018 was \$31.39, and the average annual salary was \$65,291, assuming completion of a post-secondary, non-degree award); and Petroleum Pump System Operators, Refinery Operators, and Gaugers (2018 annual average hourly wage was \$37.59, and the average annual salary was \$78,177, assuming completion of a post-secondary, non-degree award). For students completing the associate degree with a concentration in Instrumentation, occupations such as Chemical Plant and System Operators (2018 annual average hourly wage, \$32.43; average annual salary, \$67,451) and Chemical Equipment Operators and Tenders (2018 annual average hourly wage, \$32.69; annual average salary, \$67,994).

- 5) Employment growth for Millwrights (Occupational Code 49-9044) for 2016-2026 is expected to be 7%. In 2018, the average annual wage for Millwrights was \$27.62; the annual average salary was \$57,443, assuming completion of a post-secondary, non-degree award.

Additional occupations for which completers of the CTS or TD in Instrumentation or Millwright also include First-Line Supervisors of Mechanics, Installers, and Repairers (2018 average annual hourly wage, \$33.92; annual average salary, \$70,551); and First-Line Supervisors of Production and Operating Workers (2018 average annual hourly wage, \$45.48; average annual salary, \$94,598).

- 6) Employment growth for Pipe Fitters and Steamfitters (Occupational Code 47-2152) for 2016-2026 is expected to be 16%. In 2018, the average annual wage was \$28.01; the average annual salary was \$58,271. For Helpers assisting Pipelayers, Plumbers, Pipefitters, and Steamfitters (Occupational Code 47-3015), the average annual hourly wage was \$16.90; the average annual salary was \$35,158. As for Helpers assisting Electricians, those assisting pipefitters may be motivated to continue their education by the difference in another semester or two may make in their annual income!

Helpers to Installation, Maintenance, and Repair Workers, in general, can expect to find employment but at lower average annual hourly wages than their better educated peers (see Occupational Code 49-9098). Advising students to finish the technical diploma, at the very least, will be critical to the success of BRCC students, the Community, and to LCTCS.

LCTCS will benefit from the positive impact of the employment of BRCC graduates in the communities the Colleges serves, which justifies the support of the System to the College. The proposed actions support BRCC's mission to be the preferred provider of talent for a global marketplace.

SIGNATURES:

College Chief Academic Officer

Date

College Chief Executive Officer

Date

LCTCS will benefit from the positive impact of the employment of BRCC graduates in the communities the Colleges serves, which justifies the support of the System to the College. The proposed actions support BRCC's mission to be the preferred provider of talent for a global marketplace.

SIGNATURES:



College Chief Academic Officer

9/11/20

Date



College Chief Executive Officer

9/11/20

Date

Appendix A: Proposed Actions for Automotive and Auto Body Repair Programs, BRCC

Deletion: Automotive Drivability Technician Certificate of Technical Studies (CTS), CIP 47.0604:

Rubric	Course Title	Cr Hrs
MVSB 1003	Motor Vehicle Service Basics	3
MVSB 1604	Electrical Essentials	3
AUTO 1103	Engine Design	4
AUTO 1614	Automotive Advanced Electrical	4
AUTO 1803	Engine Performance I	3
AUTO 1813	Engine Performance II	3
AUTO 1151	Automotive Internship I	1
AUTO 1251	Automotive Internship II	1
AUTO 1351	Automotive Internship III	1
AUTO 1451	Automotive Internship IV	1
CTS: Drivability Technician		24

Proposed new awards in Auto Body Repair (both CIP 47.0613)*:

Non-Structural Technician Career and Technical Certificate (CTC)**				Structural Technician Certificate of Technical Studies (CTS)			
PROPOSED PROGRAM OF STUDY:				PROPOSED PROGRAM OF STUDY:			
Rubric	Course Title	Cr Hrs	Cntct Hrs	Rubric	Course Title	Cr Hrs	Cntct Hrs
MVSB 1002	Fundamentals of Safety	2	45	MVSB 1002	Fundamentals of Safety	2	45
CLRP 1105	Non-Structural Damage	5	105	MVSB 1604	Electrical Essentials	4	105
CLRP 1204	Straighten, Pull, and Anchor	4	75	CLRP 1214	Section, Cut, and Weld	4	75
				CLRP 1234	Auto Body Welding	4	90
				CLRP 2108	Collision Repair Appraisal	8	150
Total Credit Hours:		11	225	Total Credit Hours:		22	465
** IBC: I-CAR Non-Structural Technician							

* Note for the proposed awards with CIP 47.0613, no new courses are needed; a lab component has been proposed for MVSB 1002.

Appendix B: Drafting and Design concentration, Technical Studies Associate of Applied Science (AAS)

Proposed new award: Drafting Fundamentals Career and Technical Certificate (CTC): CIP 15.1301 – 4 Stars

Rubric	Course Title	Cr Hrs	Cntct Hrs
CORE 1003	Introduction to Craft Skills*	3	75
DRFT 1113	Introduction to Industrial Technology	3	75
DRFT 1123	Engineering Drafting**	3	75
	Totals:	9	225
	Semester Completed:	1st	
* IBC: NCCER CORE			
** Autodesk AutoCAD® Certified User			

Modification: Engineering Aid Certificate of Technical Studies (CTS): CIP 15.1301 – 4 Stars

CURRENT PROGRAM OF STUDY:				PROPOSED, REVISED PROGRAM OF STUDY:			
Rubric	Course Title	Cr Hrs	Cntct Hrs	Rubric	Course Title	Cr Hrs	Cntct Hrs
				CORE 1003	Introduction to Craft Skills	3	75
DRFT 1110	Drafting Fundamentals	3	75	DRFT 1113	Introduction to Industrial Technology	3	75
DRFT 1130	Pictorial Drawing	3	75	DRFT 1123	Engineering Drafting	3	75
DRFT 1145	Multi-View and Section Drawing	3	105	CSCI 1013 or CSCI 2203		3	45
CADD 1210	Basic CADD	3	105	DRFT 1213	Descriptive Geometry	3	75
DRFT 1120	Geometric Construction	2	60	DRFT 1223	Architectural Drafting	3	75
DRFT 1160	Drafting Computations	3	45	DRFT 1233	Pipe Drafting	3	75
DRFT 1161	Dimensioning	2	60	DRFT 1243	Machine Design Drafting	3	75
DRFT 1215	Auxiliary Views and Intersections	3	105				
DRFT 1230	Fasteners	2	60				
CADD 1215	Advanced CADD	3	105				
	Total Credit Hours:	27	795		Total Credit Hours:	24	570
	Semester Completed:	2nd			Semester Completed:	2nd	

**Appendix B: Drafting and Design concentration, Technical Studies Associate of Applied Science (AAS)
Modification - Drafting and Design Technician Technical Diploma (TD): CIP 15.1301 – 4 Stars**

CURRENT PROGRAM OF STUDY:				PROPOSED, REVISED PROGRAM OF STUDY:			
Rubric	Course Title	Cr Hrs	Cont hrs	Rubric	Course Title	Cr Hrs	Cont hrs
DRFT 1110	Drafting Fundamentals	3	75	CORE 1003	Introduction to Craft Skills	3	75
DRFT 1130	Pictorial Drawing	3	75	DRFT 1113	Introduction to Industrial Technology	3	75
DRFT 1145	Multi-View and Section Drawing	3	105	DRFT 1123	Engineering Drafting	3	75
CADD 1210	Basic CADD	3	105	CSCI 1013/ CSCI 2203	Introduction to Computer Technology Microcomputer Applications in Business	3	45
DRFT 1120	Geometric Construction	2	60	DRFT 1213	Descriptive Geometry	3	75
DRFT 1160	Drafting Computations	3	45	DRFT 1223	Architectural Drafting	3	75
DRFT 1161	Dimensioning	2	60	DRFT 1233	Pipe Drafting	3	75
DRFT 1215	Auxiliary Views and Intersections	3	105	DRFT 1243	Machine Design Drafting	3	75
DRFT 1230	Fasteners	2	60	DRFT 1313	Light Commercial Building Drafting	3	75
CADD 1215	Advanced CADD	3	105	DRFT 1323	Civil Drafting Technology	3	75
DRFT 2310	Basic Manufacturing/Electrical	3	105	DRFT 1333	Special Topics in Drafting	3	75
DRFT 2320	Basic Architectural/Civil/Structural	3	105	ARTS 1113 or ARTS 1123	Introduction to 2D Design or Introduction to 3D Design	3	90
DRFT 2330	Basic Piping/Marine	3	105	Choice of pairs of courses in student's area of interest:		6	90
DRFT 2510	Portfolio Presentation	3	75	ARTS 2103, Art History I and ARTS 2113, Art History II			
Choice of advanced course in manufacturing, civil, architectural, or piping drafting		6	180	CMGT 1033, Construction Safety and CMGT 1213, Construction Materials and Methods			
				PTEC 1013, Introduction to Process Technology and PTEC 2033, Safety, Health, and Environment			
				Approved Elective: ARTS 1023, ARTS 2003, CMGT 2203, or SPCH 2013		3	45-90
Total Credit Hours:		45	1365	Total Credit Hours:		45	1020- 1065

Appendix B: Drafting and Design concentration, Technical Studies Associate of Applied Science (AAS)
Modification - Drafting and Design Technology concentration, Technical Studies Associate of Applied Science (AAS):

CIP 47.9999 – 0 Stars for degree, 4 Stars for concentration

CURRENT PROGRAM OF STUDY:			PROPOSED, REVISED PROGRAM OF STUDY:		
First Semester		Cr Hrs	First Semester		Cr Hrs
DRFT 1110	Drafting Fundamentals	3	CORE 1003	Introduction to Craft Skills	3
DRFT 1130	Pictorial Drawing	3	DRFT 1113	Introduction to Industrial Technology	3
DRFT 1145	Multi-View and Section Drawing	3	DRFT 1123	Engineering Drafting	3
CADD 1210	Basic CADD	3	CSCI 1013 or CSCI 2203	Introduction to Computer Technology or Microcomputer Applications in Business	3
Any Department-approved General Education Course in Mathematics		3	Select one of the following (first in student's area of interest) ¹ :		3
Total Credit Hours for Semester		15	ARTS 2103	Art History I	
			CMGT 1033	Construction Safety	
			PTEC 1013	Introduction to Process Technology	
			Semester Total		15
Second Semester			Second Semester		
DRFT 1120	Geometric Construction	2	DRFT 1213	Descriptive Geometry	3
DRFT 1160	Drafting Computations	3	DRFT 1223	Architectural Drafting	3
DRFT 1161	Dimensioning	2	DRFT 1233	Pipe Drafting	3
DRFT 1215	Auxiliary Views & Intersections	3	DRFT 1243	Machine Design Drafting	3
DRFT 1230	Fasteners	2	Select one of the following (second in student's area of interest) ¹ :		3
CADD 1215	Advanced CADD	3	ARTS 2113	Art History II	
Total Credit Hours for Semester		15	CMGT 1213	Construction Materials and Methods	
			PTEC 2033	Safety, Health, and Environment	
			Semester Total		15
Third Semester			Third Semester		
DRFT 2310	Basic Manufacturing/Electrical	3	DRFT 1313	Light Commercial Building Drafting	3
DRFT 2320	Basic Architectural/Civil/Structural	3	DRFT 1323	Civil Drafting Technology	3
DRFT 2330	Basic Piping/Marine	3	DRFT 1333	Special Topics in Drafting	3
ENGL 1013	English Composition I	3	ARTS 1113 or ARTS 1123	Introduction to 2D Design or Introduction to 3D Design	3

Appendix B: Drafting and Design concentration, Technical Studies Associate of Applied Science (AAS)

Any General Education course in the Social Sciences		3	Approved Drafting-related Elective ³		3
Total Credit Hours for Semester		15	Semester Total		15
Fourth Semester			Total Program Credit Hours (TD):		45
Choose <u>one</u> of the following advanced disciplines:		6			
DRFT 2341	Advanced Manufacturing Drafting		<ol style="list-style-type: none"> 1 Students should speak with an advisor before or shortly after declaring this program of study to determine which electives are appropriate for the students' educational and career/employment goals. 2 These approved General Education courses will not count towards both the completion of the technical diploma and fulfill the General Education requirement for three (3) credit hours of coursework in Fine Arts for students interested in completing the Technical Studies Associate of Applied Science (AAS). Note that the prerequisite for ARTS 2103 and ARTS 2113 is Eligibility for ENGL 1013. 3 Chose from the following according to the area of interest and education and career/employment goals: <ul style="list-style-type: none"> • ARTS 1023, Introduction to Fine Arts (may not be taken to fulfill both the General Education requirement for three (3) credit hours of Fine Arts for students interested in completing the Technical Studies Associate of Applied Science and the Approved Drafting Elective requirement. • ARTS 2003, Digital Art • CMGT 2203, Construction Project Management (note that the prerequisite for this course is Eligibility for ENGL 1013) • SPCH 2013, Techniques of Speech (note that the prerequisite for this course is Eligibility for ENGL 1013). This course is recommended for students interested in transferring to a four-year college or university. 		
DRFT 2342	Advanced Civil Drafting				
DRFT 2343	Advanced Architectural Drafting				
DRFT 2346	Advanced Piping Drafting				
DRFT 2510	Portfolio Presentation	3			
Any SACSCOC-accepted General Education course in Humanities		3			
Any General Education Courses in the Physical Sciences		3			
Total Credit Hours for Semester		15			
Drafting and Design Credentials Available:			Drafting and Design Credentials Available:		
DRFT 1110	Drafting Fundamentals	3	CORE 1003	Introduction to Craft Skills	3
DRFT 1130	Pictorial Drawing	3	DRFT 1113	Introduction to Industrial Technology	3
DRFT 1145	Multi-View and Section Drawing	3	DRFT 1123	Engineering Drafting	3
CADD 1210	Basic CADD	3	CTC: Drafting Fundamentals		9

Appendix B: Drafting and Design concentration, Technical Studies Associate of Applied Science (AAS)

DRFT 1120	Geometric Construction	2			
DRFT 1160	Drafting Computations	3		DRFT 1113	Introduction to Industrial Technology 3
DRFT 1161	Dimensioning	2		DRFT 1123	Engineering Drafting 3
DRFT 1215	Auxiliary Views and Intersections	3		CSCI 1013 or CSCI 2203	Introduction to Computer Technology or Microcomputer Applications in Business 3
DRFT 1230	Fasteners	2		DRFT 1213	Descriptive Geometry 3
CADD 1215	Advanced CADD	3		DRFT 1223	Architectural Drafting 3
	Exit Point, CTS: Engineering Aide	27		DRFT 1233	Pipe Drafting 3
				DRFT 1243	Machine Design Drafting 3
DRFT 2310	Basic Manufacturing/Electrical	3			CTS: Engineering Aide 21
DRFT 2320	Basic Architectural/Civil/Structural	3			
DRFT 2330	Basic Piping/Marine	3			
Choose <u>one</u> of the following advanced disciplines:		6		Students interested in pursuing the Technical Studies Associate of Applied Science degree with a concentration in Drafting and Design Technology should contact the Division of Technical Education at 225-216-8367 for more information.	
DRFT 2341	Advanced Manufacturing				
DRFT 2342	Advanced Civil Drafting				
DRFT 2343	Advanced Architectural Drafting				
DRFT 2346	Advanced Piping Drafting				
DRFT 2510	Portfolio Presentation	3			
TD: Drafting and Design Technician (DRFT and CADD courses):		45			
For more information, contact the Division of Technical Education at (225) 359-9243.					

Appendix C: Actions Proposed for NCCER Electrical Programs, BRCC

Proposed Addition: NCCER Electrical Level 1 Career and Technical Certificate (CTC): CIP 46.0302 – 5 Stars

PROGRAM OF STUDY:			
Rubric	Course Title	Cr Hrs	Cntct Hrs
CORE 1003	Introduction to Craft Skills	3	75
ELEC 1119	Electrical Level 1	9	225
Total Credit Hours:		12	300

Industry-based certifications associated with the coursework in the CTC: NCCER CORE (CORE 1003) and NCCER Electrical Level 1 (ELEC 1119).

Modification: NCCER Electrical Level 2 Certificate of Technical Studies (CTS): CIP 46.0302 – 5 Stars

CURRENT PROGRAM OF STUDY:				PROPOSED, REVISED PROGRAM OF STUDY:			
Rubric	Course Title	Cr Hrs	Cntct Hrs	Rubric	Course Title	Cr Hrs	Cntct Hrs
CORE 1003	Introduction to Craft Skills	3	75	CORE 1003	Introduction to Craft Skills	3	75
ELEC 1116	Electrical Level 1	6	120	ELEC 1119	Electrical Level 1	9	225
ELEC 1216	Electrical Level 2 Part 1	6	105	ELEC 1216	Electrical Level 2 Part 1	6	150
ELEC 1226	Electrical Level 2 Part 2	6	105	ELEC 1226	Electrical Level 2 Part 2	6	150
Total Credit Hours:		21	405	Total Credit Hours:		24	600

Modification: NCCER Electrical Level 4 Technical Diploma (TD): CIP 46.0302 – 5 Stars

CURRENT PROGRAM OF STUDY:				PROPOSED, REVISED PROGRAM OF STUDY:			
Rubric	Course Title	Cr Hrs	Cont hrs	Rubric	Course Title	Cr Hrs	Cont hrs
CORE 1003	Introduction to Craft Skills	3	75	CORE 1003	Introduction to Craft Skills	3	75
ELEC 1116	Electrical Level 1	6	120	ELEC 1119	Electrical Level 1	9	225
ELEC 1216	Electrical Level 2 Part 1	6	105	ELEC 1216	Electrical Level 2 Part 1	6	150
ELEC 1226	Electrical Level 2 Part 2	6	105	ELEC 1226	Electrical Level 2 Part 2	6	150
ELEC 2316	Electrical Level 3 Part 1	6	105	ELEC 1316	Electrical Level 3 Part 1	6	150
ELEC 2326	Electrical Level 3 Part 2	6	105	ELEC 1326	Electrical Level 3 Part 2	6	150
ELEC 2416	Electrical Level 4 Part 1	6	105	ELEC 1419	Electrical Level 4	9	225
ELEC 2426	Electrical Level 4 Part 2	6	105				
Total Credit Hours:		45	825	Total Credit Hours:		45	1125

Appendix C: Actions Proposed for NCCER Electrical Programs, BRCC

Electrical concentration, Technical Studies Associate of Applied Science (AAS): CIP 47.9999 – 0 Stars for degree, 5 Stars for concentration

CURRENT PROGRAM OF STUDY:			PROPOSED, REVISED PROGRAM OF STUDY:		
First semester		Cr Hrs	First semester		Cr Hrs
CORE 1003	Introduction to Craft Skills	3	CORE 1003	Introduction to Craft Skills	3
ELEC 1116	Electrical Level 1	6	ELEC 1119	Electrical Level 1	9
ENGL 1013	English Composition I	1	ELEC 1216	Electrical Level 1 Part 1	6
GenEd Math	Any department-approved General Education Course in Mathematics	3		Semester Total:	18
	Semester Total:	15			
Second Semester			Second Semester		
ELEC 1216	Electrical Level 2 Part 1	6	ELEC 1226	Electrical Level 2 Part 2	6
ELEC 1226	Electrical Level 2 Part 2	6	ELEC 1316	Electrical Level 3 Part 1	6
GenEd Humanities:	Any department-approved, SACSCOC-accepted General Education course in Humanities	3	ELEC 1326	Electrical Level 3 Part 2	6
	Semester Total:	15		Semester Total:	18
Third Semester			Third Semester		
ELEC 2316	Electrical Level 3 Part 1	6	ELEC 1419	Electrical Level 4	9
ELEC 2326	Electrical Level 3 Part 2	6		Semester Total:	9
GenEd Soc Sci:	Any department-approved General Education course in Social Sciences	3			
	Semester Total:	15		Total Program Credit Hours (TD):	45
Fourth Semester					
ELEC 2416	Electrical Level 4 Part 1	6			
ELEC 2426	Electrical Level 4 Part 2				
GenEd Phys Sci:	Any department-approved General Education course in the Physical Sciences	3			
	Semester Total:	15			
Technical Studies AAS, Electrical concentration Total Program Credit Hours		60			

Appendix C: Actions Proposed for NCCER Electrical Programs, BRCC

Electrical Credentials Available:		Electrical Credentials Available:	
NCCER Electrical Level 1 courses (9 credit hours)	Cr Hrs		
CORE 1003, Introduction to Craft Skills	3	CORE 1003, Introduction to Craft Skills	3
ELEC 1116, Electrical Level 1	6	ELEC 1119, Electrical Level 1	9
NCCER Electrical Level 1:	9	CTC, NCCER Electrical Level 1	12
NCCER Electrical Level 2 courses (12 credit hours)	CR Hrs		
ELEC 1216, Electrical Level 2 Part 1	6	CORE 1003, Introduction to Craft Skills	3
ELEC 1226, Electrical Level 2 Part 2	6	ELEC 1119, Electrical Level 1	9
CTS, NCCER Electrical Level 2 (Level 1 and Level 2 courses)	21	ELEC 1216, Electrical Level 2 Part 1	6
		ELEC 1226, Electrical Level 2 Part 2	6
		CTS, NCCER Electrical Level 2	24
NCCER Electrical Level 3 courses (12 credit hours)	Cr Hrs		
ELEC 2316, Electrical Level 3 Part 1	6		
ELEC 2326, Electrical Level 3 Part 2	6		
NCCER Electrical Level 3 (Level 1, Level 2, and Level 3 courses)	33		
NCCER Electrical Level 4 courses (12 credit hours)	Cr Hrs		
ELEC 2416, Electrical Level 4 Part 1	6		
ELEC 2426, Electrical Level 4 Part 2	6		
TD, NCCER Electrical Level 4 (Level 1, Level 2, Level 3, and Level 4 courses)	45		
For more information, contact the Division of Technical Education at 225-359-9201.		Students interested in pursuing the Technical Studies Associate of Applied Science degree with a concentration in Electrical, please contact the Division of Technical Education at 225-216-8367 for more information.	

Appendix D: Actions Proposed for NCCER Instrumentation Programs, BRCC

Proposed Addition: NCCER Instrumentation Level 1 Career and Technical Certificate (CTC): CIP 15.0404 - 5 Stars

PROGRAM OF STUDY:			
Rubric	Course Title	Cr Hrs	Cntct Hrs
CORE 1003	Introduction to Craft Skills	3	75
INST 1119	Instrumentation Level 1	9	225
Total Credit Hours:		12	300

Industry-based certifications associated with the coursework in the CTC: NCCER CORE (CORE 1003) and NCCER Instrumentation Level 1 (INST 1119).

Modifications to NCCER Instrumentation Level 2 Certificate of Technical Studies (CTS): CIP 15.0404 – 5 Stars

CURRENT PROGRAM OF STUDY:				PROPOSED, REVISED PROGRAM OF STUDY:			
Rubric	Course Title	Cr Hrs	Cntct Hrs	Rubric	Course Title	Cr Hrs	Cntct Hrs
CORE 1003	Introduction to Craft Skills	3	75	CORE 1003	Introduction to Craft Skills	3	75
INST 1113	Basic Instrument Principles	3	75	INST 1119	Instrumentation Level 1	9	225
INST 1123	Material Handling and Electrical Measurement	3	75				
INST 1133	Lubricants, Tubing, Piping, and Hoses	3	75				
INST 1213	Temperature, Pressure, Level, and Flow	3	75	INST 1216	Instrumentation Level 2 Part 1	6	150
INST 1223	Test Equipment Applications	3	75				
INST 1233	Raceways and Protective Measures	3	75	INST 1226	Instrumentation Level 2 Part 2	6	150
INST 1243	Tubing Systems	3	75				
Total Credit Hours:		24	600	Total Credit Hours:		24	600
Semester Completed:		2nd		Semester Completed:		2nd	

Appendix D: Actions Proposed for NCCER Instrumentation Programs, BRCC

Modification: NCCER Instrumentation Level 4 Technical Diploma (TD): CIP 15.0404 - 5 Stars

CURRENT PROGRAM OF STUDY:				PROPOSED, REVISED PROGRAM OF STUDY:			
Rubric	Course Title	Cr Hrs	Cont hrs	Rubric	Course Title	Cr Hrs	Cont hrs
CORE 1003	Introduction to Craft Skills	3	75	CORE 1003	Introduction to Craft Skills	3	75
INST 1113	Basic Instrument Principles	3	75	INST 1119	Instrumentation Level 1	9	225
INST 1123	Material Handling and Electrical Measurement	3	75				
INST 1133	Lubricants, Tubing, Piping, and Hoses	3	75				
INST 1213	Temperature, Pressure, Level, and Flow	3	75	INST 1216	Instrumentation Level 2 Part 1	6	150
INST 1223	Test Equipment Applications	3	75				
INST 1233	Raceways and Protective Measures	3	75	INST 1226	Instrumentation Level 2 Part 2	6	150
INST 1243	Tubing Systems	3	75				
INST 2313	System Control	3	75	INST 1316	Instrumentation Level 3 Part 1	6	150
INST 2323	Electrical Circuitry for Instrumentation	3	75				
INST 2333	Conductor Applications and Testing	3	75	INST 1326	Instrumentation Level 3 Part 2	6	150
INST 2343	Process Control Theory	3	75				
INST 2413	Instrument Calibration	3	75	INST 1419	Instrumentation Level 4	9	225
INST 2423	Programmable Logic Controller (PLC) Systems and Loop Calibration	3	75				
INST 2433	Distributive Control Systems (DCSs) Analyzers, and Monitors	3	75				
Total Credit Hours:		45	1125	Total Credit Hours:		45	1125

Appendix D: Actions Proposed for NCCER Instrumentation Programs, BRCC

Instrumentation concentration, Technical Studies Associate of Applied Science (AAS): CIP 47.9999 – 0 Stars for degree, 5 Stars for concentration

CURRENT PROGRAM OF STUDY:			PROPOSED, REVISED PROGRAM OF STUDY:		
First semester		Cr Hrs	First semester		Cr Hrs
CORE 1003	Introduction to Craft Skills	3	CORE 1003	Introduction to Craft Skills	3
INST 1113	Basic Instrumentation Principles	3	INST 1119	Instrumentation Level 1	9
INST 1123	Material Handling and Electrical Measurement	3			
INST 1133	Lubricants, Tubing, Piping, and Hoses	3			
GenEd Math	Any department-approved General Education Course in Mathematics	3	INST 1216	Instrumentation Level 2 Part 1	6
	Semester Total:	15		Semester Total:	18
Second Semester			Second Semester		
INST 1213	Temperature, Pressure, Level, and Flow	3	INST 1226	Instrumentation Level 2 Part 2	6
INST 1223	Test Equipment Applications	3	INST 1316	Instrumentation Level 3 Part 1	6
INST 1233	Raceways and Protective Measures	3	INST 1326	Instrumentation Level 3 Part 2	6
INST 1243	Tubing Systems	3			
ENGL 1013	English Composition I	3			
	Semester Total:	15		Semester Total:	18
Third Semester			Third Semester		
INST 2313	System Control	3	INST 1419	Instrumentation Level 4	9
INST 2323	Electrical Circuitry for Instrumentation	3		Semester Total:	9
INST 2333	Conductor Applications and Testing	3			
INST 2343	Process Control Theory	3			
GenEd Humanities: Any department-approved General Education course in Humanities		3	Total Program Credit Hours (TD): 45		
	Semester Total:	15			
Fourth Semester					
INST 2413	Instrument Calibration	3			
INST 2423	Programmable Logic Controller (PLC) Systems and Loop Calibration	3			
INST 2433	Distributive System Systems (DCSs), Analyzers, and Monitors	3			

Appendix D: Actions Proposed for NCCER Instrumentation Programs, BRCC

CURRENT PROGRAM OF STUDY:		PROPOSED, REVISED PROGRAM OF STUDY:	
GenEd Soc Sci: Any department-approved General Education course in the Social Sciences	3		
GenEd Phys Sci: Any department-approved General Education course in the Physical Sciences	3		
Semester Total:	15		
Technical Studies AAS, Instrumentation concentration Total Program Credit Hours	60		
<i>Instrumentation Credentials Available:</i>		<i>Instrumentation Credentials Available:</i>	
CORE 1003, Introduction to Craft Skills	3	CORE 1003, Introduction to Craft Skills	3
INST 1113, Basic Instrument Principles	3	INST 1119, Instrumentation Level 1	9
INST 1123, Material Handling and Electrical Measurement	3	CTC, NCCER Instrumentation Level 1	12
INST 1133, Lubricants, Tubing, Piping, and Hoses	3		
INST 1213, Temperature, Pressure, and Flow	3	CORE 1003, Introduction to Craft Skills	3
INST 1223, Test Equipment Applications	3	INST 1119, Instrumentation Level 1	9
INST 1233, Raceways and Protective Measures	3	INST 1216, Instrumentation Level 2 Part 1	6
INST 1243, Tubing Systems	3	INST 1226, Instrumentation Level 2 Part 2	6
CTS, NCCER Instrumentation Level 2	24	CTS, NCCER Instrumentation Level 2	24
INST 2313, System Control	3		
INST 2323, Electrical Circuitry for Instrumentation	3		
INST 2333, Conductor Applications and Testing	3		
INST 2343, Process Control Theory	3		
INST 2413, Instrument Calibration	3		
INST 2423, Programmable Logic Controller (PLC) Systems and Loop Calibration	3		
INST 2433, Distributive Control Systems (DCSs), Analyzers, and Monitors	3		
TD, NCCER Instrumentation Level 4(CTS plus INST 2313-INST 2433)	45		
For more information, contact the Division of Technical Education at 225-359-9201.		Students interested in pursuing the Technical Studies Associate of Applied Science degree with a concentration in Instrumentation should contact the Division of Technical Education at 225-216-8367 for more information.	

Appendix E: Proposed Actions for NCCER Millwright Programs, BRCC

Proposed Addition: NCCER Millwright Level 1 Career and Technical Certificate (CTC): CIP 47.0303 - 5 Stars

PROGRAM OF STUDY:			
Rubric	Course Title	Cr Hrs	Cntct Hrs
CORE 1003	Introduction to Craft Skills	3	75
MILL 1119	Millwright Level 1	9	225
Total Credit Hours:		12	300

Industry-based certifications associated with the coursework in the CTC: NCCER CORE (CORE 1003) and NCCER Millwright Level 1 (MILL 1119).

Proposed Deletion: NCCER Millwright Level 3 Certificate of Technical Studies (CTS) and

Proposed new (replacement) award: NCCER Millwright Level 2 Certificate of Technical Studies (CTS):

CIP 47.0303 - 5 Stars (for both awards)

CURRENT PROGRAM OF STUDY – to be deleted				PROPOSED PROGRAM OF STUDY for new CTS:			
Rubric	Course Title	Cr Hrs	Cntct Hrs	Rubric	Course Title	Cr Hrs	Cntct Hrs
CORE 1003	Introduction to Craft Skills	3	75	CORE 1003	Introduction to Craft Skills	3	75
MILL 1113	Basic Millwright Principles	3	75	MILL 1119	Millwright Level 1	9	225
MILL 1123	Layout, Sealing, and Oxyfuel Cutting	3	75				
MILL 1213	Trade Math I, Sketching, and Blueprints	3	75	MILL 1216	Millwright Level 2 Part 1	6	150
MILL 1223	Specialty Tools and Rigging	3	75				
MILL 1233	Plates, Lubrication, and Bearings	3	75	MILL 1226	Millwright Level 2 Part 2	6	150
MILL 1313	Trade Math II, Measuring, and Packing	3	75				
MILL 1323	Seals, Bearings, and Couplings	3	75				
MILL 1333	Shims, Jigs, Drives, Fans, and Blowers	3	75				
Total Credit Hours:		27	675	Total Credit Hours:		24	600

Appendix E: Proposed Actions for NCCER Millwright Programs, BRCC

Proposed deletion: NCCER Millwright Level 5 Technical Diploma (TD) and

Proposed new (replacement) award: NCCER Millwright Level 4 TD:

CIP 47.0303 – 5 Stars (both awards)

CURRENT PROGRAM OF STUDY: to be deleted				PROPOSED PROGRAM OF STUDY: to be added			
Rubric	Course Title	Cr Hrs	Cont hrs	Rubric	Course Title	Cr Hrs	Cont hrs
CORE 1003	Introduction to Craft Skills	3	75	CORE 1003	Introduction to Craft Skills	3	75
MILL 1113	Basic Millwright Principles	3	75	MILL 1119	Millwright Level 1	9	225
MILL 1123	Layout, Sealing, and Oxyfuel Cutting	3	75				
MILL 1213	Trade Math I, Sketching, and Blueprints I	3	75	MILL 1216	Millwright Level 2 Part 1	6	150
MILL 1223	Specialty Tools and Rigging	3	75				
MILL 1233	Plates, Lubrication, and Bearings	3	75	MILL 1226	Millwright Level 2 Part 2	6	150
MILL 1313	Trade Math II, Measuring, and Packing	3	75				
MILL 1323	Seals, Bearings, and Couplings	3	75				
MILL 13333	Shims, Jigs, Drives, Fans, and Blowers	3	75				
MILL 2413	Conveyors and Conventional Alignment	3	75	MILL 1316	Millwright Level 3 Part 1	6	150
MILL 2423	Pumps and Compressor Systems	3	75				
MILL 2433	Hydraulic Systems and Gearboxes	3	75	MILL 1326	Millwright Level 3 Part 2	6	150
MILL 2513	Reverse and Laser Alignment	3	75				
MILL 2523	Blueprints II and Optical Alignment	3	75	MILL 1419	Millwright Level 4	9	225
MILL 2533	Motors, Preventive Maintenance Inspection, and Vibration Analysis	3	75				
Total Credit Hours:		45	1125	Total Credit Hours:		45	1125

Appendix E: Proposed Actions for NCCER Millwright Programs, BRCC

Millwright concentration, Technical Studies Associate of Applied Science (AAS):

CIP 47.9999 – 0 Stars for degree, 5 Stars for concentration

CURRENT PROGRAM OF STUDY:			PROPOSED, REVISED PROGRAM OF STUDY:		
First semester		Cr Hrs	First semester		Cr Hrs
CORE 1003	Introduction to Craft Skills	3	CORE 1003	Introduction to Craft Skills	3
MILL 1113	Basic Millwright Principles	3	MILL 1119	Millwright Level 1	9
MILL 1123	Layout, Sealing, and Oxyfuel Cutting	3			
ENGL 1013	English Composition I	3			
GenEd Math	Any department-approved General Education Course in Mathematics	3	MILL 1216	Millwright Level 2 Part 1	6
	Semester Total:	15		Semester Total:	18
Second Semester			Second Semester		
MILL 1213	Trade Math I, Sketching, and Blueprints I	3	MILL 1226	Millwright Level 2 Part 2	6
MILL 1223	Specialty Tools and Rigging	3	MILL 1316	Millwright Level 3 Part 1	6
MILL 1233	Plates, Lubrication, and Bearings	3	MILL 1326	Millwright Level 3 Part 2	6
MILL 1313	Trade Math II, Measuring, and Packing	3			
GenEd Humanities: Any department-approved General Education course in Humanities		3			
	Semester Total:	15		Semester Total:	18
Third Semester			Third Semester		
MILL 1323	Seals, Bearing, and Couplings	3	MILL 1419	Millwright Level 4	9
MILL 1333	Shims, Jigs, Drives, Fans, and Blowers	3			
MILL 2413	Conveyors and Conventional Alignment	3		Semester Total:	9
MILL 2423	Pumps and Compressor Systems	3			
GenEd Phys Sci: Any department-approved General Education course in Physical Sciences		3		Total Program Credit Hours (TD):	45
	Semester Total:	15			
Fourth Semester			Fourth Semester		
MILL 2433	Hydraulic Systems and Gearboxes	3			
MILL 2513	Reverse and Laser Alignment	3			
MILL 2523	Blueprints II and Optical Alignment	3			
MILL 2533	Motors, Preventive Maintenance Inspection, and Vibration Analysis	3			

Appendix E: Proposed Actions for NCCER Millwright Programs, BRCC

CURRENT PROGRAM OF STUDY:		PROPOSED, REVISED PROGRAM OF STUDY:	
GenEd Soc Sci: Any department-approved General Education course in the Social Sciences	3		
Semester Total:	15		
Total Program Credit Hours, Technical Studies AAS, Millwright concentration	60		
<i>Millwright Credentials Available:</i>	Cr Hrs	<i>Millwright Credentials Available:</i>	Cr Hrs
CORE 1003, Introduction to Craft Skills	3	CORE 1003, Introduction to Craft Skills	3
MILL 1113, Basic Millwright Principles	3	MILL 1119, Millwright Level 1	9
MILL 1123, Layout, Sealing, and Oxyfuel Cutting	3	CTC, NCCER Millwright Level 1	12
MILL 1213, Trade Math I, Sketching, and Blueprints I	3		
MILL 1223, Specialty Tools and Rigging	3	CORE 1003, Introduction to Craft Skills	3
MILL 1233, Plates, Lubrication, and Bearings	3	MILL 1119, Millwright Level 1	9
MILL 1313, Trade Math II, Measuring, and Packing	3	MILL 1216, Millwright Level 2 Part 1	6
MILL 1323, Seals, Bearings, and Couplings	3	MILL 1226, Millwright Level 2 Part 2	6
MILL 1333, Shims, Jigs, Drives, Fans, and Blowers	3	CTS, NCCER Millwright Level 2	24
NCCER Millwright Level 3	27		
MILL 2413, Conveyors and Conventional Alignment	3		
MILL 2423, Pumps and Compressor Systems	3		
MILL 2433, Hydraulic Systems and Gearboxes	3		
MILL 2513, Reverse and Laser Alignment	3		
MILL 2523, Blueprints II and Optical Alignment	3		
MILL 2533, Motors, Preventive Maintenance Inspection, and Vibration Analysis	3		
TD, NCCER Millwright Level 5 (CTS plus MILL 2413-MILL 2533)	45		
For more information, contact the Division of Technical Education at 225-359-9201.		Students interested in pursuing The Technical Studies Associate of Applied Science degree with a concentration in Millwright should contact the Division of Technical Education at 225-216-8367 for more information.	

Appendix F: Proposed Actions for NCCER Pipefitting Programs, BRCC

Proposed Addition: NCCER Pipefitting Level 1 Career and Technical Certificate (CTC): CIP 46.0502 – 5 Stars

PROGRAM OF STUDY:			
Rubric	Course Title	Cr Hrs	Cntct Hrs
CORE 1003	Introduction to Craft Skills	3	75
PIPE 1119	Pipefitting Level 1	9	225
Total Credit Hours:		12	300

Industry-based certifications associated with the coursework in the CTC: NCCER CORE (CORE 1003) and NCCER Pipefitting Level 1 (PIPE 1119).

Modification: NCCER Pipefitting Level 2 Certificate of Technical Studies (CTS): CIP 46.0502 – 5 Stars

CURRENT PROGRAM OF STUDY:				PROPOSED, REVISED PROGRAM OF STUDY:			
Rubric	Course Title	Cr Hrs	Cntct Hrs	Rubric	Course Title	Cr Hrs	Cntct Hrs
CORE 1003	Introduction to Craft Skills	3	75	CORE 1003	Introduction to Craft Skills	3	75
PIPE 1116	Pipefitting Level 1	6	105	PIPE 1119	Pipefitting Level 1	9	225
PIPE 1216	Pipefitting Level 2 Part 1	6	105	PIPE 1216	Pipefitting Level 2 Part 1	6	150
PIPE 1226	Pipefitting Level 2 Part 2	6	105	PIPE 1226	Pipefitting Level 2 Part 2	6	150
Total Credit Hours:		21	390	Total Credit Hours:		24	600
Semester Completed:		2nd		Semester Completed:		2nd	

Modification: NCCER Pipefitting Level 4 Technical Diploma (TD): CIP 46.0502 – 5 Stars

CURRENT PROGRAM OF STUDY:				PROPOSED, REVISED PROGRAM OF STUDY:			
Rubric	Course Title	Cr Hrs	Cont hrs	Rubric	Course Title	Cr Hrs	Cont hrs
CORE 1003	Introduction to Craft Skills	3	75	CORE 1003	Introduction to Craft Skills	3	75
PIPE 1116	Pipefitting Level 1	6	105	PIPE 1119	Pipefitting Level 1	9	225
PIPE 1216	Pipefitting Level 2 Part 1	6	105	PIPE 1216	Pipefitting Level 2 Part 1	6	150
PIPE 1226	Pipefitting Level 2 Part 2	6	105	PIPE 1226	Pipefitting Level 2 Part 2	6	150
PIPE 2316	Pipefitting Level 3 Part 1	6	105	PIPE 1316	Pipefitting Level 3 Part 1	6	150
PIPE 2326	Pipefitting Level 3 Part 2	6	105	PIPE 1326	Pipefitting Level 3 Part 2	6	150
PIPE 2416	Pipefitting Level 4 Part 1	6	105	PIPE 1419	Pipefitting Level 4	9	225
PIPE 2426	Pipefitting Level 4 Part 2	6	105				
Total Credit Hours:		45	810	Total Credit Hours:		45	1125
Semester Completed:		5th		Semester Completed:		3rd	

Appendix F: Proposed Actions for NCCER Pipefitting Programs, BRCC

Pipefitting concentration, Technical Studies Associate of Applied Science (AAS): - CIP 47.9999 – 0 Stars for the degree, 5 Stars for the concentration

CURRENT PROGRAM OF STUDY:			PROPOSED, REVISED PROGRAM OF STUDY:		
First semester		Cr Hrs	First semester		Cr Hrs
CORE 1003	Introduction to Craft Skills	3	CORE 1003	Introduction to Craft Skills	3
PIPE 1116	Pipefitting Level 1	6	PIPE 1119	Pipefitting Level 1	9
ENGL 1013	English Composition I	1	PIPE 1216	Pipefitting Level 1 Part 1	6
GenEd Math	Any department-approved General Education Course in Mathematics	3		Semester Total:	18
	Semester Total:	15			
Second Semester			Second Semester		
PIPE 1216	Pipefitting Level 2 Part 1	6	PIPE 1226	Pipefitting Level 2 Part 2	6
PIPE 1226	Pipefitting Level 2 Part 2	6	PIPE 1316	Pipefitting Level 3 Part 1	6
GenEd Humanities:	Any department-approved, SACSCOC-accepted General Education course in Humanities	3	PIPE 1326	Pipefitting Level 3 Part 2	6
	Semester Total:	15		Semester Total:	18
Third Semester			Third Semester		
PIPE 2316	Pipefitting Level 3 Part 1	6	PIPE 1419	Pipefitting Level 4	9
PIPE 2326	Pipefitting Level 3 Part 2	6		Semester Total:	9
GenEd Soc Sci:	Any department-approved General Education course in Social Sciences	3			
	Semester Total:	15		Total Program Credit Hours (TD):	45
Fourth Semester					
PIPE 2416	Pipefitting Level 4 Part 1	6			
PIPE 2426	Pipefitting Level 4 Part 2				
GenEd Phys Sci:	Any department-approved General Education course in the Physical Sciences	3			
	Semester Total:	15			
Technical Studies AAS, Pipefitting concentration Total Program Credit Hours		60			

Appendix F: Proposed Actions for NCCER Pipefitting Programs, BRCC

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<i>Pipefitting Credentials Available:</i>	Cr Hrs	<i>Pipefitting Credentials Available:</i>	Cr Hrs
		CORE 1003, Introduction to Craft Skills	3
		PIPE 1119, Pipefitting Level 1	9
		CTC, NCCER Pipefitting Level 1	12
CORE 1003, Introduction to Craft Skills	3	CORE 1003, Introduction to Craft Skills	3
PIPE 1116, Pipefitting Level 1	6	PIPE 1119, Pipefitting Level 1	9
PIPE 1216, Pipefitting Level 2 Part 1	6	PIPE 1216, Pipefitting Level 2 Part 1	6
PIPE 1226, Pipefitting Level 2 Part 2	6	PIPE 1226, Pipefitting Level 2 Part 2	6
CTS, NCCER Pipefitting Level 2	21	CTS, NCCER Pipefitting Level 2	24
PIPE 2316, Pipefitting Level 3 Part 1	6		
PIPE 2326, Pipefitting Level 3 Part 2	6		
PIPE 2416, Pipefitting Level 4 Part 1	6		
PIPE 2426, Pipefitting Level 4 Part 2	6		
TD, NCCER Pipefitting Level 4 (CTS plus PIPE 2316-PIPE 2426)	45		
For more information, contact the Division of Technical Education at 225-359-9201.		Students interested in pursuing The Technical Studies Associate of Applied Science degree with a concentration in Pipefitting should contact the Division of Technical Education at 225-216-8367 for more information.	



Baton Rouge Community College
201 Community College Dr.
Baton Rouge, LA 70806
(225) 216-8000
www.mybrcc.edu

Appendix G: New courses for the Drafting and Design Technology, Electrical, Instrumentation, Millwright, and Pipefitting concentrations in the Technical Studies AAS

Drafting and Design Technology Concentration

DRFT 1113, Introduction to Industrial Technology. CIP Code: 15.1301. Lecture Hours 1, Lab Hours 4, Credit Hours 3. Prerequisites: None. Co-requisites: CORE 1003, DRFT 1123, and [CSCI 1013 or CSCI 2203]. Suggested Enrollment Cap: 25. Effective Spring 2021.

Course Description: Covers the evolution of technology in industry and its impact. Students will research technology in industry and society, focusing on employment opportunities, career paths, technological growth, salaries, and job descriptions as well as technical, ethical, and professional requirements.

DRFT 1123, Engineering Drafting. CIP Code: 15.1301. Lecture Hours 1, Lab Hours 4, Credit Hours 3. Prerequisites: None. Co-requisites: CORE 1003, DRFT 1113, and [CSCI 1013 or CSCI 2203]. Suggested Enrollment Cap: 25. Effective Spring 2021.

Course Description: Studies the terminology, concepts, theories, and fundamental skills necessary to understand and operate a CAD system. Use the system to graphically communicate through the basic elements of drafting including orthographic projection, sectioning, dimensioning, isometric and oblique pictorial representation, standard symbols, simple auxiliary views, precision, and tolerancing.

DRFT 1213, Descriptive Geometry. CIP Code: 15.1301. Lecture Hours 1, Lab Hours 4, Credit Hours 3. Prerequisites: CORE 1003, DRFT 1113, DRFT 1123, and [CSCI 1013 or CSCI 2203]. Co-requisites: DRFT 1223, DRFT 1233, and DRFT 1243. Suggested Enrollment Cap: 25. Effective Spring 2021.

Course Description: Students will study the basic concepts of descriptive geometry by solving space problems using graphic solutions through orthographic projection. Focus will be placed on the limits of accuracy of the graphic method and empirical data.

DRFT 1223, Architectural Drafting. CIP Code: 15.1301. Lecture Hours 1, Lab Hours 4, Credit Hours 3. Prerequisites: CORE 1003, DRFT 1113, DRFT 1123, and [CSCI 1013 or CSCI 2203]. Co-requisites: DRFT 1213, DRFT 1233, and DRFT 1243. Suggested Enrollment Cap: 25. Effective Spring 2021.

Course Description: Studies the principles and practices of architectural drawing,

terminology, and construction through residential planning and design. Plans include floor plans, elevations, building sections, details, electrical plans, and plot plans. Studies will be introduced to Architectural Revit.

DRFT 1233, Pipe Drafting. CIP Code: 15.1301. Lecture Hours 1, Lab Hours 4, Credit Hours 3. Prerequisites: CORE 1003, DRFT 1113, DRFT 1123, and [CSCI 1013 or CSCI 2203]. Co-requisites: DRFT 1213, DRFT 1223, and DRFT 1243. Suggested Enrollment Cap: 25. Effective Spring 2021.

Course Description: Students will study piping design and drafting fundamentals as used in process industries such as refineries and petrochemical plants. Includes the study, use, and drafting of pipes, fittings, flanges, valves, equipment and structural systems using the latest industry-standard software. Students will use industry standards to create schematic, plan, elevation, isometric, spool, and 3-D drawings of various process piping components/systems.

DRFT 1243, Machine Design Drafting. CIP Code: 15.1301. Lecture Hours 1, Lab Hours 4, Credit Hours 3. Prerequisites: CORE 1003, DRFT 1113, DRFT 1123, and [CSCI 1013 or CSCI 2203]. Co-requisites: DRFT 1213, DRFT 1223, and DRFT 1233. Suggested Enrollment Cap: 25. Effective Spring 2021.

Course Description: Introduces feature-based parametric modeling of simple and complex machine parts, sub-assemblies, and assemblies. Includes fully documenting design projects according to industry standards, including video presentations, animations, project documentation, change orders, file management for design projects, reverse engineering and 3D printing.

DRFT 1313, Light Commercial Building Drafting. CIP Code: 15.1301. Lecture Hours 1, Lab Hours 4, Credit Hours 3. Prerequisites: DRFT 1213, DRFT 1223, DRFT 1233, and DRFT 1243. Co-requisites: DRFT 1323 and DRFT 1333. Suggested Enrollment Cap: 25. Effective Spring 2021.

Course Description: Studies the analysis and solutions for basic problems in the design and construction of small commercial properties using a variety of materials and methods of construction.

DRFT 1323, Civil Drafting Technology. CIP Code: 15.1301. Lecture Hours 1, Lab Hours 4, Credit Hours 3. Prerequisites: DRFT 1213, DRFT 1223, DRFT 1233, and DRFT 1243. Co-requisites: DRFT 1313 and DRFT 1333. Suggested Enrollment Cap: 25. Effective Spring 2021.

Course Description: Studies aspects of mapping in civil drafting from surveying to highway layout. This course covers basic concepts and techniques such as leveling, longitude and latitude, map scales, symbols, directions, plot plans, contours, profiles, and highway cut and fill. Students will use computer-aided design (CAD) software to complete projects related to interpretation of survey data, profiles and cross sections, land subdivision, site and grading plans, and basic earthwork calculations.

DRFT 1333, Special Topics in Drafting. CIP Code: 15.1301. Lecture Hours 1, Lab Hours 4, Credit Hours 3. Prerequisites: DRFT 1213, DRFT 1223, DRFT 1233, and DRFT 1243. Co-requisites: DRFT 1313 and DRFT 1323. Suggested Enrollment Cap: 25. Effective Spring 2021.

Course Description: Students will use industrial and engineering applications of design concepts involving the use of points, planes, and lines, and their spatial relationships. Includes the application of primary, secondary and successive auxiliaries used in various engineering disciplines.

Electrical Concentration

ELEC 1119, Electrical Level 1. CIP Code: 46.0302. Lecture Hours 3, Lab Hours 12, Credit Hours 9. Prerequisites: CORE 1003. Co-requisites: none. Suggested Enrollment Cap: 15. Effective Spring 2021.

Course Description: Covers the National Center for Construction Education and Research (NCCER) Electrical Level 1 Modules 1 - 12: Orientation to the Electrical Trade, Electrical Safety, Introduction to Electrical Circuits, Electrical Theory, Introduction to the National Electrical Code, Device Boxes, Hand Bending, Raceways and Fittings, Conductors and Cables, Basic Electrical Construction Drawings, Residential Electrical Services, and Electrical Test Equipment. Successful completion of this course requires passing the NCCER Level 1 Electrical Modules 1 – 12 Exams with a 70% or higher. This course requires a lab fee*.

* Lab fee = \$180.00/student

Note: this course will replace ELEC 1116, Electrical Level 1, CIP code 46.0302; Lecture Hours 4, Lab Hours 4, Credit Hours 6.

ELEC 1316, Electrical Level 3 Part 1. CIP Code 46.0302. Lecture Hours 2, Lab Hours 8, Credit Hours 6. Prerequisites: ELEC 1216 and ELEC 1226. Co-requisites: ELEC 1326. Suggested Enrollment Cap: 15. Effective Spring 2021.

Course Description: Covers the National Center for Construction Education and Research (NCCER) Electrical Level 3 Modules 1 - 5: Load Calculations - Branch and Feeder Circuits, Conductor Selection and Calculations, Practical Applications of Lighting, Hazardous Locations, and Overcurrent Protection. Successful completion of this course requires passing the NCCER Level 3 Electrical Modules 1 – 5 Exams with a 70% or higher. This course requires a lab fee*.

* Lab fee = \$30.00/student

Note: this course will replace ELEC 2316, Electrical Level 3 Part 1, CIP Code 46.0302; Lecture Hours 5, Lab Hours 2, Credit Hours 6.

ELEC 1326, Electrical Level 3 Part 2. CIP Code 46.0302. Lecture Hours 2, Lab Hours 8, Credit Hours 6. Prerequisites: ELEC 1216 and ELEC 1226. Co-requisites: ELEC

1316. Suggested Enrollment Cap: 15. Effective Spring 2021.

Course Description: Covers the National Center for Construction Education and Research (NCCER) Electrical Level 3 Modules 6 - 11: Distribution Equipment, Transformers, Commercial Electrical Services, Motor Calculations, Voice, Data, and Video, and Motor Controls. Successful completion of this course requires passing the NCCER Level 3 Electrical Modules 6 – 11 Exams with a 70% or higher.

Note: this course will replace ELEC 2326, Electrical Level 3 Part 2, CIP Code 46.0302; Lecture Hours 5, Lab Hours 2, Credit Hours 6.

ELEC 1416, Electrical Level 4. CIP Code 46.0302. Lecture Hours 3, Lab Hours 12, Credit Hours 9. Prerequisites: ELEC 2326 or permission of instructor. Co-requisites: none. Suggested Enrollment Cap: 15. Effective Spring 2021.

Course Description: Covers the National Center for Construction Education and Research (NCCER) Electrical Level 4 Modules 1 - 13: Load Calculations - Feeders and Services, Health Care Facilities, Standby and Emergency Systems, Basic Electronic Theory, Fire Alarm Systems, Specialty Transformers, and Advanced Controls, HVAC (Heating, Ventilation, and Air Conditioning) Controls, Heat Tracing and Freeze Protection, Motor Operation and Maintenance, Medium-Voltage Terminations/Splices, Special Locations, and Fundamentals of Crew Leadership. Successful completion of this course requires passing the NCCER Level 4 Electrical Modules 1 – 13 Exams with a 70% or higher.

Note: This course will replace ELEC 2416 (Electrical Level 4 Part 1; CIP Code 46.0302; Lecture Hours 5, Lab Hours 2, Credit Hours 6) and ELEC 2426 (Electrical Level 4 Part 2; CIP Code 46.0302; Lecture Hours 5, Lab Hours 2, Credit Hours 6).

Instrumentation Concentration:

INST 1119, Instrumentation Level 1. CIP Code: 15.0404. Lecture hours 3, Lab hours 12, Credit hours 9. Prerequisites: CORE 1003. Co-requisites: None. Suggested Enrollment Cap: 20. Effective Spring 2021.

Course Description: Covers the National Center for Construction Education and Research (NCCER) Instrumentation Level 1 Modules 1 – 12. Successful completion of this course requires passing the NCCER Level 1 Modules 1 – 12 Exams with a 70% or higher. This course requires lab and exam fees.

Lab Fee: \$90.00/student; Exam Fee \$30.00/student.

Note: this course will replace the following three courses:

INST 1113, Basic Instrumentation Principles. CIP Code: 15.0404. Lecture hours 1, Lab hours 4, Credit hours 3. Lab Fee: \$30.00/student. Exam Fee: \$10.00/student.

INST 1123, Material Handling and Electrical Measurement. CIP Code: 15.0404. Lecture hours 1, Lab hours 4, Credit hours 3. Lab Fee: \$30.00/student. Exam Fee: \$10.00/student.

INST 1133, Lubricants, Tubing, Piping, and Hoses. CIP Code: 15.0404. Lecture hours 1, Lab hours 4, Credit hours 3. Lab Fee: \$30.00/student. Exam Fee: \$10.00/student.

INST 1216, Instrumentation Level 2 Part 1. CIP Code: 15.0404. Lecture hours 2, Lab hours 8, Credit hours 6. Prerequisites: INST 1119. Co-requisites: None. Suggested Enrollment Cap: 20. Effective Spring 2021.

Course Description: Covers the National Center for Construction Education and Research (NCCER) Instrumentation Level 2 Modules 1 – 6. Successful completion of this course requires passing the NCCER Level 2 Modules 1 – 6 Exams with a 70% or higher. This course requires an exam fee.

Exam Fee: \$20.00/student.

Note: this course will replace the following two courses:

INST 1213, Temperature, Pressure, Level, and Flow. CIP Code: 15.0404. Lecture hours 1, Lab hours 4, Credit hours 3. Exam Fee: \$10.00/student.

INST 1223, Test Equipment Applications. CIP Code: 15.0404. Lecture hours 1, Lab hours 4, Credit hours 3. Exam Fee: \$10.00/student.

INST 1226, Instrumentation Level 2 Part 2. CIP Code: 15.0404. Lecture hours 2, Lab hours 8, Credit hours 6. Prerequisites: INST 1119. Co-requisites: None. Suggested Enrollment Cap: 20. Effective Spring 2021.

Course Description: Covers the National Center for Construction Education and Research (NCCER) Instrumentation Level 2 Modules 7 – 11. Successful completion of this course requires passing the NCCER Level 2 Modules 7 – 11 Exams with a 70% or higher. This course requires lab and exam fees.

Lab Fee: \$60.00/student. Exam Fee: \$20.00/student.

Note: this course will replace the following two courses:

INST 1233, Raceways and Protective Measures. CIP Code: 15.0404. Lecture hours 1, Lab hours 4, Credit hours 3. Lab Fee: \$30.00/student. Exam Fee: \$10.00/student.

INST 1243, Tubing Systems. CIP Code: 15.0404. Lecture hours 1, Lab hours 4, Credit hours 3. Lab Fee: \$30.00/student. Exam Fee: \$10.00/student.

INST 1316, Instrumentation Level 3 Part 1. CIP Code: 15.0404. Lecture hours 2, Lab hours 8, Credit hours 6. Prerequisites: INST 1216 and INST 1226. Co-requisites: INST 1326. Suggested Enrollment Cap: 20. Effective Spring 2021.

Course Description: Covers the National Center for Construction Education and Research (NCCER) Instrumentation Level 3 Modules 1 – 4. Successful completion of this course requires passing the NCCER Level 3 Modules 1 – 4 Exams with a 70% or higher. This course requires lab and exam fees.

Lab Fee: \$30.00/student. Exam Fee: \$20.00/student.

Note: this course will replace the following two courses:

INST 2313, System Control. CIP Code: 15.0404. Lecture hours 1, Lab hours 4, Credit hours 3. Exam Fee: \$10.00/student.

INST 2323, Electrical Circuitry for Instrumentation. CIP Code: 15.0404. Lecture hours 1, Lab hours 4, Credit hours 3. Lab Fee: \$30.00/student. Exam Fee:

\$10.00/student.

INST 1326, Instrumentation Level 3 Part 2. CIP Code: 15.0404. Lecture hours 2, Lab hours 8, Credit hours 6. INST 1216 and INST 1226. Co-requisites: INST 1316. Suggested Enrollment Cap: 20. Effective Spring 2021.

Course Description: Covers the National Center for Construction Education and Research (NCCER) Instrumentation Level 3 Modules 5 – 9. Successful completion of this course requires passing the NCCER Level 3 Modules 5 – 9 Exams with a 70% or higher. This course requires an exam fee.

Exam Fee: \$20.00/student.

Note: this course will replace the following two courses:

INST 2333, Conductor Applications and Testing. CIP Code: 15.0404. Lecture hours 1, Lab hours 4, Credit hours 3. Lab Fee: \$10.00/student.

INST 2343, Process Control Theory. CIP Code: 15.0404. Lecture hours 1, Lab hours 4, Credit hours 3. Lab Fee: \$10.00/student.

INST 1419, Instrumentation Level 4. CIP Code: 15.0404. Lecture hours 3, Lab hours 12, Credit hours 9. Prerequisites: INST 1316 and INST 1326. Co-requisites: None. Suggested Enrollment Cap: 20. Effective Spring 2021.

Course Description: Covers the National Center for Construction Education and Research (NCCER) Instrumentation Level 4 Modules 1 - 7. Successful completion of this course requires passing the NCCER Level 4 Module 2 1 - 7 Exams with a 70% or higher. This course requires an exam fee.

Exam Fee \$30.00/student.

Note: this course will replace the following three courses:

INST 2413, Instrument Calibration. CIP Code: 15.0404. Lecture hours 1, Lab hours 4, Credit hours 3. Exam Fee: \$10.00/student.

INST 2423, Programmable Logic Controller Systems and Loop Calibration. CIP Code: 15.0404. Lecture hours 1, Lab hours 4, Credit hours 3. Exam Fee: \$10.00/student.

INST 2433, Distributive Control Systems, Analyzers, and Monitors. CIP Code: 15.0404. Lecture hours 1, Lab hours 4, Credit hours 3. Exam Fee: \$10.00/student.

Millwright Concentration

MILL 1119, Millwright Level 1. CIP Code: 47.0303. Lecture hours 3, Lab hours 12, Credit hours 9. Prerequisites: CORE 1003. Co-requisites: None. Suggested Enrollment Cap: 20. Effective Spring 2021.

Course Description: This course covers the National Center for Construction Education and Research (NCCER) Millwright Level 1 Modules 1 – 6. Successful completion of this course requires passing the NCCER Level 1 Modules 1 – 6 Exams with a 70% or higher. This course requires lab and exam fees.

Lab Fee: \$60.00/student. Exam Fee: \$20.00/student.

Note this course replaces the following two courses.

MILL 1113, Basic Millwright Principles. CIP Code: 47.0303. Lecture hours 1, Lab hours 4, Credit hours 3. Lab Fee: \$30.00/student. Exam Fee: \$10.00/student.
MILL 1123, Layout, Sealing, and Oxyfuel Cutting. CIP Code: 47.0303. Lecture hours 1, Lab hours 4, Credit hours 3. Lab Fee: \$30.00/student. Exam Fee: \$10.00/student.

MILL 1216, Millwright Level 2 Part 1. CIP Code: 47.0303. Lecture hours 2, Lab hours 8, Credit hours 6. Prerequisites: MILL 1119. Co-requisites: None. Suggested Enrollment Cap: 20. Effective Spring 2021.

Course Description: This course covers the National Center for Construction Education and Research (NCCER) Millwright Level 2 Modules 1 – 6. Successful completion of this course requires passing the NCCER Level 2 Modules 1 – 6 Exams with a 70% or higher. This course requires lab and exam fees.

Lab Fee: \$30.00/student. Exam Fee: \$20.00/student.

Note this course replaces the following two courses.

MILL 1213, Trade Math I, Sketching, and Blueprints I. CIP Code: 47.0303. Lecture hours 1, Lab hours 4, Credit hours 3. Exam Fee: \$10.00/student.

MILL 1223, Specialty Tools and Rigging. CIP Code: 47.0303. Lecture hours 1, Lab hours 4, Credit hours 3. Lab Fee: \$30.00/student. Exam Fee: \$10.00/student.

MILL 1226, Millwright Level 2 Part 2. CIP Code: 47.0303. Lecture hours 2, Lab hours 8, Credit hours 6. Prerequisites: MILL 1119. Co-requisites: None. Suggested Enrollment Cap: 20. Effective Spring 2021.

Course Description: This course covers the National Center for Construction Education and Research (NCCER) Millwright Level 2 Modules 7 – 9. Successful completion of this course requires passing the NCCER Level 2 Modules 7 – 9 Exams with a 70% or higher. This course requires lab and exam fees.

Lab Fee: \$30.00/student. Exam Fee: \$10.00/student.

Note this course replaces the following course.

MILL 1233, Plates, Lubrication, and Bearings. CIP Code: 47.0303. Lecture hours 1, Lab hours 4, Credit hours 3. Lab Fee: \$30.00/student. Exam Fee: \$10.00/student.

MILL 1316, Millwright Level 3 Part 1. CIP Code: 47.0303. Lecture hours 2, Lab hours 8, Credit hours 6. Prerequisites: MILL 1216 and MILL 1226. Co-requisites: MILL 1326. Suggested Enrollment Cap: 20. Effective Spring 2021.

Course Description: This course covers the National Center for Construction Education and Research (NCCER) Millwright Level 3 Modules 1 – 7. Successful completion of this course requires passing the NCCER Level 3 Modules 1 – 7 Exams with a 70% or higher. This course requires an exam fee.

Exam Fee: \$20.00/student.

Note this course replaces the following two courses.

MILL 1313, Trade Math II, Measuring, and Packing. CIP Code: 47.0303. Lecture

hours 1, Lab hours 4, Credit hours 3. Exam Fee: \$10.00/student.

MILL 1323, Seals, Bearings, and Couplings. CIP Code: 47.0303. Lecture hours 1, Lab hours 4, Credit hours 3. Exam Fee: \$10.00/student.

MILL 1326, Millwright Level 3 Part 2. CIP Code: 47.0303. Lecture hours 2, Lab hours 8, Credit hours 6. Prerequisites: MILL 1216 and MILL 1226. Co-requisites: MILL 1316. Suggested Enrollment Cap: 20. Effective Spring 2021.

Course Description: This course covers the National Center for Construction Education and Research (NCCER) Millwright Level 3 Modules 8 – 12. Successful completion of this course requires passing the NCCER Level 3 Modules 8 – 12 Exams with a 70% or higher. This course requires an exam fee.

Exam Fee: \$10.00/student.

Note this course replaces the following course.

MILL 1333, Shims, Jigs, Drives, Fans, and Blowers. CIP Code: 47.0303. Lecture hours 1, Lab hours 4, Credit hours 3. Exam Fee: \$10.00/student.

MILL 1419, Millwright Level 1. CIP Code: 47.0303. Lecture hours 3, Lab hours 12, Credit hours 9. Prerequisites: MILL 1316 and MILL 1326. Co-requisites: None. Suggested Enrollment Cap: 20. Effective Spring 2021.

Course Description: This course covers the National Center for Construction Education and Research (NCCER) Millwright Level 4 Modules 1 – 11. Successful completion of this course requires passing the NCCER Level 4 Modules 1 – 11 Exams with a 70% or higher. This course requires lab and exam fees.

Lab Fee: \$30.00/student. Exam Fee: \$30.00/student.

Note this course replaces the following three courses.

MILL 2413, Conveyors and Conventional Alignment. CIP Code: 47.0303. Lecture hours 1, Lab hours 4, Credit hours 3. Lab Fee: \$30.00/student. Exam Fee: \$10.00/student.

MILL 2423, Pumps and Compressor Systems. CIP Code: 47.0303. Lecture hours 1, Lab hours 4, Credit hours 3. Exam Fee: \$10.00/student.

MILL 2433, Hydraulic Systems and Gearboxes. CIP Code: 47.0303. Lecture hours 1, Lab hours 4, Credit hours 3. Exam Fee: \$10.00/student.

Pipefitting Concentration:

PIPE 1119, Pipefitting Level 1. CIP Code 46.0502. Lecture Hours 3, Lab Hours 12, Credit Hours 9. Prerequisites: CORE 1003. Co-requisites: none. Suggested Enrollment Cap: 15. Effective Spring 2021.

Course Description: Covers the National Center for Construction Education and Research (NCCER) Pipefitting Level 1 Modules 1 - 6: Orientation to the Trade, Pipefitting Hand Tools, Pipefitting Power Tools, Oxyfuel Cutting, Ladders and Scaffolds, and Motorized Equipment. Successful completion of this course requires passing the NCCER Level 1 Pipefitting Modules 1 – 6 Exams with a 70% or higher. This course requires a lab fee*.

* Lab fee = \$80.00/student

Note: this course will replace PIPE 1116, Pipefitting Level 1; CIP Code 46.0502; Lecture Hours 5, Lab Hours 2, Credit Hours 6.

PIPE 1316, Pipefitting Level 3 Part 1. CIP Code 46.0502. Lecture Hours 2, Lab Hours 8, Credit Hours 6. Prerequisites: PIPE 1216 and PIPE 1226. Co-requisites: PIPE 1326. Suggested Enrollment Cap: 15. Effective Spring 2021.

Course Description: Covers the National Center for Construction Education and Research (NCCER) Pipefitting Level 3 Modules 1 - 5: Rigging Equipment, Rigging Practices, Standards and Specifications, Advanced Trade Math, and Advanced Motorized Equipment. Successful completion of this course requires passing the NCCER Level 3 Pipefitting Modules 1 – 5 Exams with a 70% or higher.

Note: this course will replace PIPE 2316, Pipefitting Level 3 Part 1; CIP Code 46.0502; Lecture Hours 5, Lab Hours 2, Credit Hours 6.

PIPE 1326, Pipefitting Level 3 Part 2. CIP Code 46.0502. Lecture Hours 2, Lab Hours 8 Credit Hours 6. Prerequisites: PIPE 1216 and PIPE 1226. Co-requisites: PIPE 1316. Suggested Enrollment Cap: 15. Effective Spring 2021.

Course Description: Covers the National Center for Construction Education and Research (NCCER) Pipefitting Level 3 Modules 6 - 9: Introduction to Above-Ground Pipe Installation, Field Routing and Vessel Trim, Pipe Hangers and Supports, and Testing Piping Systems and Equipment. Successful completion of this course requires passing the NCCER Level 3 Pipefitting Modules 6 – 9 Exams with a 70% or higher. This course requires a lab fee*.

* Lab fee = \$80.00/student

Note: this course will replace PIPE 2326, Pipefitting Level 3 Part 2; CIP Code 46.0502; Lecture Hours 5, Lab Hours 2, Credit Hours 6.

PIPE 1419, Pipefitting Level 4. CIP Code 46.0502. Lecture Hours 3, Lab Hours 12, Credit Hours 9. Prerequisites: PIPE 1316 and PIPE 1326. Co-requisites: none. Suggested Enrollment Cap: 15. Effective Spring 2021.

Course Description: Covers the National Center for Construction Education and Research (NCCER) Pipefitting Level 4 Modules 1 - 9: Advanced Blueprint Reading, Advanced Fabrication, Stress Relieving and Aligning, Steam Traps, In-Line Specialties, Special Piping, Hot Taps, Maintaining Valves, and Introduction to Supervisory Roles. Successful completion of this course requires passing the NCCER Level 4 Pipefitting Modules 1 - 9 Exams with a 70% or higher. This course requires a lab fee.

Lab fee: \$245.00/student

Note: this course will replace PIPE 2416 (Pipefitting Level 4 Part 1; CIP Code 46.0502; Lecture Hours 5, Lab Hours 2, Credit Hours 6; lab fee \$180.00/student) and PIPE 2426 (Pipefitting Level 4 Part 2; CIP Code 46.0502; Lecture Hours 5, Lab Hours 2, Credit Hours 6; lab fee \$65.00/student).



Appendix H - Baton Rouge- Capital - Regional Labor Market Area 2 Long Term Projections for All Occupations to 2026 (in order by occupational code)

RLMA 2 : Ascension, East Baton Rouge, East Feliciana, Iberville, Livingston, Pointe Coupee, St. Helena, Tangipahoa, Washington, West Baton Rouge, & West Feliciana

Star Rating ¹	Stars	Occ. Code ²	Occupational Title ³	2016 Estimate ⁴	2026 Projected ⁵	10 Year Growth ⁶	Annual New Growth ⁷	Annual Exits ⁸	Annual Transfers ⁹	Annual Total Openings ¹⁰	2018 RLMA 2 Hourly Average Wage ¹¹	2018 RLMA 2 Annual Average Wage ¹²	2018 RLMA 2 Hourly Avg. Wage - Lowest 10% ¹³	2018 RLMA 2 Annual Avg. Wage - Lowest 10% ¹⁴	2018 RLMA 2 Hourly Avg. Wage - Highest 10% ¹⁵	2018 RLMA 2 Annual Avg. Wage - Highest 10% ¹⁶	Most Significant Source of Education or Training ¹⁷	Work Experience	Job Training	Occupational License Required ¹⁸
★★★★	4	49-3021	Automotive Body and Related Repairers	420	490	70	10	20	30	50	\$23.18	\$48,205	\$13.27	\$27,595	\$34.97	\$72,732	Postsecondary non-degree award	None	Moderate-term on-the-job training	Cert. Avail.
★★★★	4	17-3011	Architectural and Civil Drafters	260	290	30	0	10	20	30	\$25.55	\$53,141	\$17.29	\$35,970	\$35.12	\$73,043	Associate's Degree	None	Occupation-specific training	Cert. Avail.
★★★★	4	17-3012	Electrical and Electronics Drafters	60	70	10	0	0	0	10	\$33.12	\$68,892	\$17.32	\$36,019	\$49.62	\$103,210	Associate's degree	None	Occupation-specific training	
★★★★	4	17-3013	Mechanical Drafters	340	400	60	10	10	20	40	\$33.56	\$69,795	\$19.34	\$40,232	\$56.58	\$117,694	Associate's Degree	None	Occupation-specific training	Cert. Avail.
		17-3019	Drafters, All Other	320	380	50	10	10	20	30	\$28.64	\$59,563	\$17.04	\$35,436	\$46.30	\$96,302	Associate's Degree	None	Occupation-specific training	
★★★★	4	47-2111	Electricians	4,020	4,180	160	20	140	310	470	\$25.38	\$52,800	\$16.58	\$34,485	\$36.26	\$75,427	Postsecondary non-degree award	None	Apprenticeship	Lic. Req.
★★★	3	47-3013	Helpers--Electricians	1,490	1,540	40	0	60	150	210	\$14.82	\$30,824	\$9.77	\$20,315	\$21.63	\$44,988	High school diploma or equivalent	None	Short-term on-the-job training	
★★★★	4	49-2094	Electrical and Electronics Repairers, Commercial and Industrial Equipment	260	270	10	0	10	20	20	\$31.39	\$65,291	\$16.20	\$33,698	\$46.22	\$96,146	Postsecondary non-degree award	None	Long-term on-the-job training	
★★★★★	5	51-8093	Petroleum Pump System Operators, Refinery Operators, and Gaugers	1,660	1,820	170	20	40	130	190	\$37.59	\$78,177	\$26.47	\$55,065	\$48.23	\$100,327	Postsecondary non-degree award	None	Long-term on-the-job training	
★★★★	4	51-8091	Chemical Plant and System Operators	2,390	2,400	10	0	60	180	240	\$32.43	\$67,451	\$19.58	\$40,725	\$46.69	\$97,119	Associate's Degree	None	Long-term on-the-job training	Cert. Avail.
★★★★	4	51-9011	Chemical Equipment Operators and Tenders	620	650	30	0	20	50	70	\$32.69	\$67,994	\$20.33	\$42,278	\$44.74	\$93,060	Associate's Degree	None	Moderate-term on-the-job training	Cert. Avail.
★★★★	4	49-9044	Millwrights	430	460	30	0	10	30	40	\$27.62	\$57,443	\$18.15	\$37,762	\$37.03	\$77,015	Postsecondary non-degree award	None	Apprenticeship	Cert. Avail.
★★★★★	5	49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	1,890	2,090	200	20	60	100	190	\$33.92	\$70,551	\$19.52	\$40,606	\$57.51	\$119,611	Postsecondary non-degree award	Less than 5 years	Occupation-specific training	
★★★★★	5	51-1011	First-Line Supervisors of Production and Operating Workers	2,750	2,950	200	20	90	180	290	\$45.48	\$94,598	\$22.12	\$46,004	\$74.26	\$154,456	Postsecondary non-degree award	Less than 5 years	Occupation-specific training	
★★★★★	5	47-2152	Plumbers, Pipefitters, and Steamfitters	3,520	3,810	290	30	130	250	410	\$28.01	\$58,271	\$15.98	\$33,240	\$38.88	\$80,879	Postsecondary non-degree award	None	Apprenticeship	Lic. Req.
★★★	3	47-3015	Helpers--Pipefitters, Plumbers, Pipefitters, and Steamfitters	660	710	60	10	30	70	100	\$16.90	\$35,158	\$12.58	\$26,166	\$22.51	\$46,812	High school diploma or equivalent	None	Short-term on-the-job training	
★★	2	49-9098	Helpers--Installation, Maintenance, and Repair Workers	730	830	100	10	40	60	110	\$14.06	\$29,249	\$8.73	\$18,154	\$18.73	\$38,955	High school diploma or equivalent	None	Moderate-term on-the-job training	

¹ Stars represent occupational outlook and wages. Five star occupations have the best outlook and pay the highest wages.

² Unique code assigned to each occupation describing knowledge, skills and abilities necessary to perform a variety of activities and tasks.
<http://online.onetcenter.org/>

³ Title of the occupation.

⁴ 2016 Annual Average employment from employer payroll files, with estimates for self-employed workers.

⁵ 2026 Projected employment estimate includes new jobs and replacement needs of employers.

⁶ Projected 10 year growth in an occupation.

⁷ Number of projected new jobs for the occupation.

⁸ Number of jobs needed to fill those workers leaving an occupation.

⁹ Number of jobs needed to fill those workers retiring.

¹⁰ Annual job openings as a function of job separations (retirements + turnover) + new growth.

¹¹ 2018 Hourly average wage for all workers in this occupation.

¹² 2018 Annual average wage for all workers in this occupation.

¹³ Average hourly wage for lowest 10 percent of workers in this occupation.

¹⁴ Average annual wage for lowest 10 percent of workers in this occupation.

¹⁵ Average hourly wage for highest 10 percent of workers in this occupation.

¹⁶ Annual average wage of highest 10 percent of workers in this occupation.

¹⁷ Most Significant Source of Education- Researched and designated by the Bureau of Labor Statistics (BLS) and enhanced by Louisiana Workforce Commission

Long-Term Tng. & Exp. = Long-Term training and experience (more than 12 months of on-the-job training)

Mod-term Tng. & Exp. = Moderate-term training and experience (1 to 12 months of combined on-the-job experience and informal training)

Short-term Tng. & Exp. = Short-term training and experience (up to 1 month of on-the-job experience)

¹⁸ Louisiana Licensing Guide reference describing those occupations regulated by state boards, commissions or agencies.

<http://www.laworks.net/Downloads/LMI/licensingguide.pdf>

NA - Wages from the 2018 Occupational Wage Survey were not available because of confidentiality, or only annual wages are available for most of the education related occupations.

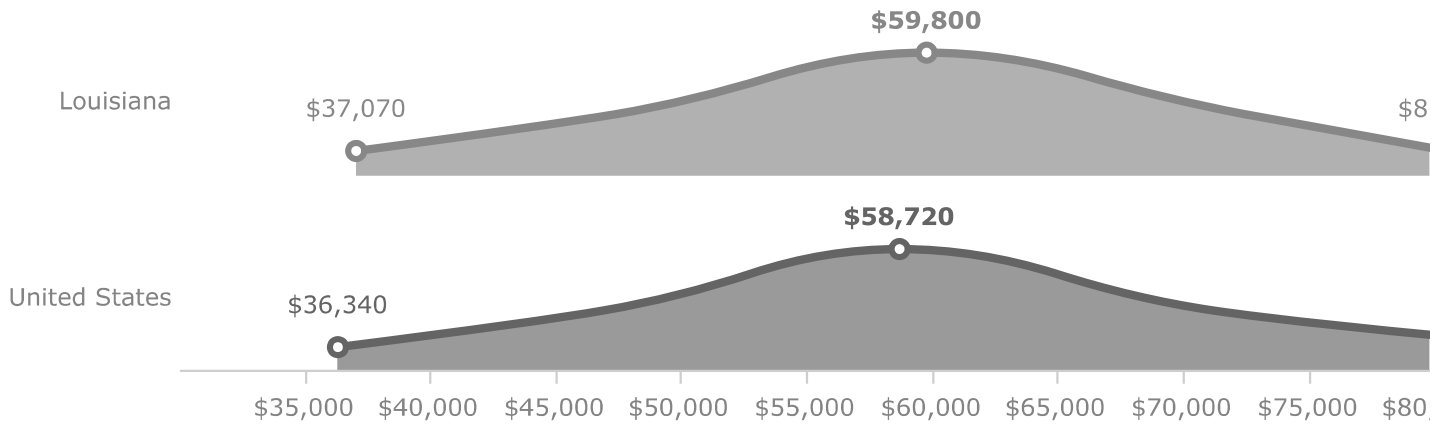


Louisiana Wages for: 49-9069.00 - Precision Instrument and Equipment Repairers, All Other

View wages for state:

View wages near ZIP Code:

View wages:



In Louisiana:

- Workers on average earn **\$59,800**.
- 10% of workers earn **\$37,070 or less**.
- 10% of workers earn **\$80,590 or more**.

In the United States:

- Workers on average earn **\$58,720**.
- 10% of workers earn **\$36,340 or less**.
- 10% of workers earn **\$85,160 or more**.

Source: Bureau of Labor Statistics [2019 wage data](#)

Full Details [Save Table \(XLSX/CSV\)](#)

Location	Annual Low (10%)	Annual Q _L (25%)	Annual Median (50%)	Annual Q _U (75%)	Annual High (90%)
United States	\$36,340	\$46,960	\$58,720	\$71,170	\$85,160
Louisiana	\$37,070	\$47,420	\$59,800	\$72,470	\$80,590
Baton Rouge, LA	\$54,560	\$60,460	\$68,800	\$75,760	\$79,940
Lafayette, LA	\$38,770	\$46,160	\$55,010	\$66,960	\$76,660
Lake Charles, LA	\$38,340	\$62,260	\$80,280	\$102,080	\$142,610
New Orleans-Metairie, LA	\$37,900	\$44,090	\$56,450	\$71,590	\$81,200

Appendix A: Proposed Actions for Automotive and Auto Body Repair Programs, BRCC

Deletion: Automotive Drivability Technician Certificate of Technical Studies (CTS), CIP 47.0604:

Rubric	Course Title	Cr Hrs
MVSB 1003	Motor Vehicle Service Basics	3
MVSB 1604	Electrical Essentials	3
AUTO 1103	Engine Design	4
AUTO 1614	Automotive Advanced Electrical	4
AUTO 1803	Engine Performance I	3
AUTO 1813	Engine Performance II	3
AUTO 1151	Automotive Internship I	1
AUTO 1251	Automotive Internship II	1
AUTO 1351	Automotive Internship III	1
AUTO 1451	Automotive Internship IV	1
CTS: Drivability Technician		24

Proposed new award in Auto Body Repair (CIP 47.0613)*:

Non-Structural Technician Career and Technical Certificate (CTC)**			
PROPOSED PROGRAM OF STUDY:			
Rubric	Course Title	Cr Hrs	Cntct Hrs
MVSB 1002	Fundamentals of Safety	2	45
MVSB 1604	Electrical Essentials	4	105
CLRP 1105	Non-Structural Damage	5	105
CLRP 1204	Straighten, Pull, and Anchor	4	75
	Total Credit Hours:	15	330
** IBC: I-CAR Non-Structural Technician			

* Note for the proposed award with CIP 47.0613, no new courses are needed; a lab component has been proposed for MVSB 1002.

Appendix B: Drafting and Design concentration, Technical Studies Associate of Applied Science (AAS)

Proposed new award: Drafting Fundamentals Career and Technical Certificate (CTC): CIP 15.1301 – 4 Stars

Rubric	Course Title	Cr Hrs	Cntct Hrs
CORE 1003	Introduction to Craft Skills*	3	75
DRFT 1113	Introduction to Industrial Technology	3	75
DRFT 1123	Engineering Drafting**	3	75
	Totals:	9	225
	Semester Completed:	1st	
* IBC: NCCER CORE			
** Autodesk AutoCAD® Certified User			

Modification: Engineering Aid Certificate of Technical Studies (CTS): CIP 15.1301 – 4 Stars

CURRENT PROGRAM OF STUDY:				PROPOSED, REVISED PROGRAM OF STUDY:			
Rubric	Course Title	Cr Hrs	Cntct Hrs	Rubric	Course Title	Cr Hrs	Cntct Hrs
				CORE 1003	Introduction to Craft Skills	3	75
DRFT 1110	Drafting Fundamentals	3	75	DRFT 1113	Introduction to Industrial Technology	3	75
DRFT 1130	Pictorial Drawing	3	75	DRFT 1123	Engineering Drafting	3	75
DRFT 1145	Multi-View and Section Drawing	3	105	CSCI 1013 or CSCI 2203		3	45
CADD 1210	Basic CADD	3	105	DRFT 1213	Descriptive Geometry	3	75
DRFT 1120	Geometric Construction	2	60	DRFT 1223	Architectural Drafting	3	75
DRFT 1160	Drafting Computations	3	45	DRFT 1233	Pipe Drafting	3	75
DRFT 1161	Dimensioning	2	60	DRFT 1243	Machine Design Drafting	3	75
DRFT 1215	Auxiliary Views and Intersections	3	105				
DRFT 1230	Fasteners	2	60				
CADD 1215	Advanced CADD	3	105				
	Total Credit Hours:	27	795		Total Credit Hours:	24	570
	Semester Completed:	2nd			Semester Completed:	2nd	

**Appendix B: Drafting and Design concentration, Technical Studies Associate of Applied Science (AAS)
Modification - Drafting and Design Technician Technical Diploma (TD): CIP 15.1301 – 4 Stars**

CURRENT PROGRAM OF STUDY:				PROPOSED, REVISED PROGRAM OF STUDY:			
Rubric	Course Title	Cr Hrs	Cont hrs	Rubric	Course Title	Cr Hrs	Cont hrs
DRFT 1110	Drafting Fundamentals	3	75	CORE 1003	Introduction to Craft Skills	3	75
DRFT 1130	Pictorial Drawing	3	75	DRFT 1113	Introduction to Industrial Technology	3	75
DRFT 1145	Multi-View and Section Drawing	3	105	DRFT 1123	Engineering Drafting	3	75
CADD 1210	Basic CADD	3	105	CSCI 1013/ CSCI 2203	Introduction to Computer Technology Microcomputer Applications in Business	3	45
DRFT 1120	Geometric Construction	2	60	DRFT 1213	Descriptive Geometry	3	75
DRFT 1160	Drafting Computations	3	45	DRFT 1223	Architectural Drafting	3	75
DRFT 1161	Dimensioning	2	60	DRFT 1233	Pipe Drafting	3	75
DRFT 1215	Auxiliary Views and Intersections	3	105	DRFT 1243	Machine Design Drafting	3	75
DRFT 1230	Fasteners	2	60	DRFT 1313	Light Commercial Building Drafting	3	75
CADD 1215	Advanced CADD	3	105	DRFT 1323	Civil Drafting Technology	3	75
DRFT 2310	Basic Manufacturing/Electrical	3	105	DRFT 1333	Special Topics in Drafting	3	75
DRFT 2320	Basic Architectural/Civil/Structural	3	105	ARTS 1113 or ARTS 1123	Introduction to 2D Design or Introduction to 3D Design	3	90
DRFT 2330	Basic Piping/Marine	3	105	Choice of pairs of courses in student's area of interest:		6	90
DRFT 2510	Portfolio Presentation	3	75	ARTS 2103, Art History I and ARTS 2113, Art History II			
Choice of advanced course in manufacturing, civil, architectural, or piping drafting		6	180	CMGT 1033, Construction Safety and CMGT 1213, Construction Materials and Methods			
				PTEC 1013, Introduction to Process Technology and PTEC 2033, Safety, Health, and Environment			
				Approved Elective: ARTS 1023, ARTS 2003, CMGT 2203, or SPCH 2013		3	45-90
Total Credit Hours:		45	1365	Total Credit Hours:		45	1020- 1065

Appendix B: Drafting and Design concentration, Technical Studies Associate of Applied Science (AAS)
Modification - Drafting and Design Technology concentration, Technical Studies Associate of Applied Science (AAS):

CIP 47.9999 – 0 Stars for degree, 4 Stars for concentration

CURRENT PROGRAM OF STUDY:			PROPOSED, REVISED PROGRAM OF STUDY:		
First Semester		Cr Hrs	First Semester		Cr Hrs
DRFT 1110	Drafting Fundamentals	3	CORE 1003	Introduction to Craft Skills	3
DRFT 1130	Pictorial Drawing	3	DRFT 1113	Introduction to Industrial Technology	3
DRFT 1145	Multi-View and Section Drawing	3	DRFT 1123	Engineering Drafting	3
CADD 1210	Basic CADD	3	CSCI 1013 or CSCI 2203	Introduction to Computer Technology or Microcomputer Applications in Business	3
Any Department-approved General Education Course in Mathematics		3	Select one of the following (first in student's area of interest) ¹ :		3
Total Credit Hours for Semester		15	ARTS 2103	Art History I	
			CMGT 1033	Construction Safety	
			PTEC 1013	Introduction to Process Technology	
			Semester Total		15
Second Semester			Second Semester		
DRFT 1120	Geometric Construction	2	DRFT 1213	Descriptive Geometry	3
DRFT 1160	Drafting Computations	3	DRFT 1223	Architectural Drafting	3
DRFT 1161	Dimensioning	2	DRFT 1233	Pipe Drafting	3
DRFT 1215	Auxiliary Views & Intersections	3	DRFT 1243	Machine Design Drafting	3
DRFT 1230	Fasteners	2	Select one of the following (second in student's area of interest) ¹ :		3
CADD 1215	Advanced CADD	3	ARTS 2113	Art History II	
Total Credit Hours for Semester		15	CMGT 1213	Construction Materials and Methods	
			PTEC 2033	Safety, Health, and Environment	
			Semester Total		15
Third Semester			Third Semester		
DRFT 2310	Basic Manufacturing/Electrical	3	DRFT 1313	Light Commercial Building Drafting	3
DRFT 2320	Basic Architectural/Civil/Structural	3	DRFT 1323	Civil Drafting Technology	3
DRFT 2330	Basic Piping/Marine	3	DRFT 1333	Special Topics in Drafting	3
ENGL 1013	English Composition I	3	ARTS 1113 or ARTS 1123	Introduction to 2D Design or Introduction to 3D Design	3

Appendix B: Drafting and Design concentration, Technical Studies Associate of Applied Science (AAS)

Any General Education course in the Social Sciences		3	Approved Drafting-related Elective ³		3
Total Credit Hours for Semester		15	Semester Total		15
Fourth Semester			Total Program Credit Hours (TD):		45
Choose <u>one</u> of the following advanced disciplines:		6			
DRFT 2341	Advanced Manufacturing Drafting		<ol style="list-style-type: none"> 1 Students should speak with an advisor before or shortly after declaring this program of study to determine which electives are appropriate for the students' educational and career/employment goals. 2 These approved General Education courses will not count towards both the completion of the technical diploma and fulfill the General Education requirement for three (3) credit hours of coursework in Fine Arts for students interested in completing the Technical Studies Associate of Applied Science (AAS). Note that the prerequisite for ARTS 2103 and ARTS 2113 is Eligibility for ENGL 1013. 3 Chose from the following according to the area of interest and education and career/employment goals: <ul style="list-style-type: none"> • ARTS 1023, Introduction to Fine Arts (may not be taken to fulfill both the General Education requirement for three (3) credit hours of Fine Arts for students interested in completing the Technical Studies Associate of Applied Science and the Approved Drafting Elective requirement. • ARTS 2003, Digital Art • CMGT 2203, Construction Project Management (note that the prerequisite for this course is Eligibility for ENGL 1013) • SPCH 2013, Techniques of Speech (note that the prerequisite for this course is Eligibility for ENGL 1013). This course is recommended for students interested in transferring to a four-year college or university. 		
DRFT 2342	Advanced Civil Drafting				
DRFT 2343	Advanced Architectural Drafting				
DRFT 2346	Advanced Piping Drafting				
DRFT 2510	Portfolio Presentation	3			
Any SACSCOC-accepted General Education course in Humanities		3			
Any General Education Courses in the Physical Sciences		3			
Total Credit Hours for Semester		15			
Drafting and Design Credentials Available:			Drafting and Design Credentials Available:		
DRFT 1110	Drafting Fundamentals	3	CORE 1003	Introduction to Craft Skills	3
DRFT 1130	Pictorial Drawing	3	DRFT 1113	Introduction to Industrial Technology	3
DRFT 1145	Multi-View and Section Drawing	3	DRFT 1123	Engineering Drafting	3
CADD 1210	Basic CADD	3	CTC: Drafting Fundamentals		9

Appendix B: Drafting and Design concentration, Technical Studies Associate of Applied Science (AAS)

DRFT 1120	Geometric Construction	2			
DRFT 1160	Drafting Computations	3		DRFT 1113	Introduction to Industrial Technology 3
DRFT 1161	Dimensioning	2		DRFT 1123	Engineering Drafting 3
DRFT 1215	Auxiliary Views and Intersections	3		CSCI 1013 or CSCI 2203	Introduction to Computer Technology or Microcomputer Applications in Business 3
DRFT 1230	Fasteners	2		DRFT 1213	Descriptive Geometry 3
CADD 1215	Advanced CADD	3		DRFT 1223	Architectural Drafting 3
	Exit Point, CTS: Engineering Aide	27		DRFT 1233	Pipe Drafting 3
				DRFT 1243	Machine Design Drafting 3
DRFT 2310	Basic Manufacturing/Electrical	3			CTS: Engineering Aide 21
DRFT 2320	Basic Architectural/Civil/Structural	3			
DRFT 2330	Basic Piping/Marine	3			
Choose <u>one</u> of the following advanced disciplines:		6		Students interested in pursuing the Technical Studies Associate of Applied Science degree with a concentration in Drafting and Design Technology should contact the Division of Technical Education at 225-216-8367 for more information.	
DRFT 2341	Advanced Manufacturing				
DRFT 2342	Advanced Civil Drafting				
DRFT 2343	Advanced Architectural Drafting				
DRFT 2346	Advanced Piping Drafting				
DRFT 2510	Portfolio Presentation	3			
TD: Drafting and Design Technician (DRFT and CADD courses):		45			
For more information, contact the Division of Technical Education at (225) 359-9243.					

Appendix C: Actions Proposed for NCCER Electrical Programs, BRCC

Proposed Addition: NCCER Electrical Level 1 Career and Technical Certificate (CTC): CIP 46.0302 – 5 Stars

PROGRAM OF STUDY:			
Rubric	Course Title	Cr Hrs	Cntct Hrs
CORE 1003	Introduction to Craft Skills	3	75
ELEC 1119	Electrical Level 1	9	225
Total Credit Hours:		12	300

Industry-based certifications associated with the coursework in the CTC: NCCER CORE (CORE 1003) and NCCER Electrical Level 1 (ELEC 1119).

Modification: NCCER Electrical Level 2 Certificate of Technical Studies (CTS): CIP 46.0302 – 5 Stars

CURRENT PROGRAM OF STUDY:				PROPOSED, REVISED PROGRAM OF STUDY:			
Rubric	Course Title	Cr Hrs	Cntct Hrs	Rubric	Course Title	Cr Hrs	Cntct Hrs
CORE 1003	Introduction to Craft Skills	3	75	CORE 1003	Introduction to Craft Skills	3	75
ELEC 1116	Electrical Level 1	6	120	ELEC 1119	Electrical Level 1	9	225
ELEC 1216	Electrical Level 2 Part 1	6	105	ELEC 1216	Electrical Level 2 Part 1	6	150
ELEC 1226	Electrical Level 2 Part 2	6	105	ELEC 1226	Electrical Level 2 Part 2	6	150
Total Credit Hours:		21	405	Total Credit Hours:		24	600

Modification: NCCER Electrical Level 4 Technical Diploma (TD): CIP 46.0302 – 5 Stars

CURRENT PROGRAM OF STUDY:				PROPOSED, REVISED PROGRAM OF STUDY:			
Rubric	Course Title	Cr Hrs	Cont hrs	Rubric	Course Title	Cr Hrs	Cont hrs
CORE 1003	Introduction to Craft Skills	3	75	CORE 1003	Introduction to Craft Skills	3	75
ELEC 1116	Electrical Level 1	6	120	ELEC 1119	Electrical Level 1	9	225
ELEC 1216	Electrical Level 2 Part 1	6	105	ELEC 1216	Electrical Level 2 Part 1	6	150
ELEC 1226	Electrical Level 2 Part 2	6	105	ELEC 1226	Electrical Level 2 Part 2	6	150
ELEC 2316	Electrical Level 3 Part 1	6	105	ELEC 1316	Electrical Level 3 Part 1	6	150
ELEC 2326	Electrical Level 3 Part 2	6	105	ELEC 1326	Electrical Level 3 Part 2	6	150
ELEC 2416	Electrical Level 4 Part 1	6	105	ELEC 1419	Electrical Level 4	9	225
ELEC 2426	Electrical Level 4 Part 2	6	105				
Total Credit Hours:		45	825	Total Credit Hours:		45	1125

Appendix C: Actions Proposed for NCCER Electrical Programs, BRCC

Electrical concentration, Technical Studies Associate of Applied Science (AAS): CIP 47.9999 – 0 Stars for degree, 5 Stars for concentration

CURRENT PROGRAM OF STUDY:			PROPOSED, REVISED PROGRAM OF STUDY:		
First semester		Cr Hrs	First semester		Cr Hrs
CORE 1003	Introduction to Craft Skills	3	CORE 1003	Introduction to Craft Skills	3
ELEC 1116	Electrical Level 1	6	ELEC 1119	Electrical Level 1	9
ENGL 1013	English Composition I	1	ELEC 1216	Electrical Level 1 Part 1	6
GenEd Math	Any department-approved General Education Course in Mathematics	3		Semester Total:	18
	Semester Total:	15			
Second Semester			Second Semester		
ELEC 1216	Electrical Level 2 Part 1	6	ELEC 1226	Electrical Level 2 Part 2	6
ELEC 1226	Electrical Level 2 Part 2	6	ELEC 1316	Electrical Level 3 Part 1	6
GenEd Humanities:	Any department-approved, SACSCOC-accepted General Education course in Humanities	3	ELEC 1326	Electrical Level 3 Part 2	6
	Semester Total:	15		Semester Total:	18
Third Semester			Third Semester		
ELEC 2316	Electrical Level 3 Part 1	6	ELEC 1419	Electrical Level 4	9
ELEC 2326	Electrical Level 3 Part 2	6		Semester Total:	9
GenEd Soc Sci:	Any department-approved General Education course in Social Sciences	3			
	Semester Total:	15		Total Program Credit Hours (TD):	45
Fourth Semester					
ELEC 2416	Electrical Level 4 Part 1	6			
ELEC 2426	Electrical Level 4 Part 2				
GenEd Phys Sci:	Any department-approved General Education course in the Physical Sciences	3			
	Semester Total:	15			
Technical Studies AAS, Electrical concentration Total Program Credit Hours		60			

Appendix C: Actions Proposed for NCCER Electrical Programs, BRCC

Electrical Credentials Available:		Electrical Credentials Available:	
NCCER Electrical Level 1 courses (9 credit hours)	Cr Hrs		
CORE 1003, Introduction to Craft Skills	3	CORE 1003, Introduction to Craft Skills	3
ELEC 1116, Electrical Level 1	6	ELEC 1119, Electrical Level 1	9
NCCER Electrical Level 1:	9	CTC, NCCER Electrical Level 1	12
NCCER Electrical Level 2 courses (12 credit hours)	CR Hrs		
ELEC 1216, Electrical Level 2 Part 1	6	CORE 1003, Introduction to Craft Skills	3
ELEC 1226, Electrical Level 2 Part 2	6	ELEC 1119, Electrical Level 1	9
CTS, NCCER Electrical Level 2 (Level 1 and Level 2 courses)	21	ELEC 1216, Electrical Level 2 Part 1	6
		ELEC 1226, Electrical Level 2 Part 2	6
		CTS, NCCER Electrical Level 2	24
NCCER Electrical Level 3 courses (12 credit hours)	Cr Hrs		
ELEC 2316, Electrical Level 3 Part 1	6		
ELEC 2326, Electrical Level 3 Part 2	6		
NCCER Electrical Level 3 (Level 1, Level 2, and Level 3 courses)	33		
NCCER Electrical Level 4 courses (12 credit hours)	Cr Hrs		
ELEC 2416, Electrical Level 4 Part 1	6		
ELEC 2426, Electrical Level 4 Part 2	6		
TD, NCCER Electrical Level 4 (Level 1, Level 2, Level 3, and Level 4 courses)	45		
For more information, contact the Division of Technical Education at 225-359-9201.		Students interested in pursuing the Technical Studies Associate of Applied Science degree with a concentration in Electrical, please contact the Division of Technical Education at 225-216-8367 for more information.	

Appendix D: Actions Proposed for NCCER Instrumentation Programs, BRCC

Proposed Addition: NCCER Instrumentation Level 1 Career and Technical Certificate (CTC): CIP 15.0404 - 5 Stars

PROGRAM OF STUDY:			
Rubric	Course Title	Cr Hrs	Cntct Hrs
CORE 1003	Introduction to Craft Skills	3	75
INST 1119	Instrumentation Level 1	9	225
Total Credit Hours:		12	300

Industry-based certifications associated with the coursework in the CTC: NCCER CORE (CORE 1003) and NCCER Instrumentation Level 1 (INST 1119).

Modifications to NCCER Instrumentation Level 2 Certificate of Technical Studies (CTS): CIP 15.0404 – 5 Stars

CURRENT PROGRAM OF STUDY:				PROPOSED, REVISED PROGRAM OF STUDY:			
Rubric	Course Title	Cr Hrs	Cntct Hrs	Rubric	Course Title	Cr Hrs	Cntct Hrs
CORE 1003	Introduction to Craft Skills	3	75	CORE 1003	Introduction to Craft Skills	3	75
INST 1113	Basic Instrument Principles	3	75	INST 1119	Instrumentation Level 1	9	225
INST 1123	Material Handling and Electrical Measurement	3	75				
INST 1133	Lubricants, Tubing, Piping, and Hoses	3	75				
INST 1213	Temperature, Pressure, Level, and Flow	3	75	INST 1216	Instrumentation Level 2 Part 1	6	150
INST 1223	Test Equipment Applications	3	75				
INST 1233	Raceways and Protective Measures	3	75	INST 1226	Instrumentation Level 2 Part 2	6	150
INST 1243	Tubing Systems	3	75				
Total Credit Hours:		24	600	Total Credit Hours:		24	600
Semester Completed:		2nd		Semester Completed:		2nd	

Appendix D: Actions Proposed for NCCER Instrumentation Programs, BRCC

Modification: NCCER Instrumentation Level 4 Technical Diploma (TD): CIP 15.0404 - 5 Stars

CURRENT PROGRAM OF STUDY:				PROPOSED, REVISED PROGRAM OF STUDY:			
Rubric	Course Title	Cr Hrs	Cont hrs	Rubric	Course Title	Cr Hrs	Cont hrs
CORE 1003	Introduction to Craft Skills	3	75	CORE 1003	Introduction to Craft Skills	3	75
INST 1113	Basic Instrument Principles	3	75	INST 1119	Instrumentation Level 1	9	225
INST 1123	Material Handling and Electrical Measurement	3	75				
INST 1133	Lubricants, Tubing, Piping, and Hoses	3	75				
INST 1213	Temperature, Pressure, Level, and Flow	3	75	INST 1216	Instrumentation Level 2 Part 1	6	150
INST 1223	Test Equipment Applications	3	75				
INST 1233	Raceways and Protective Measures	3	75	INST 1226	Instrumentation Level 2 Part 2	6	150
INST 1243	Tubing Systems	3	75				
INST 2313	System Control	3	75	INST 1316	Instrumentation Level 3 Part 1	6	150
INST 2323	Electrical Circuitry for Instrumentation	3	75				
INST 2333	Conductor Applications and Testing	3	75	INST 1326	Instrumentation Level 3 Part 2	6	150
INST 2343	Process Control Theory	3	75				
INST 2413	Instrument Calibration	3	75	INST 1419	Instrumentation Level 4	9	225
INST 2423	Programmable Logic Controller (PLC) Systems and Loop Calibration	3	75				
INST 2433	Distributive Control Systems (DCSs) Analyzers, and Monitors	3	75				
Total Credit Hours:		45	1125	Total Credit Hours:		45	1125

Appendix D: Actions Proposed for NCCER Instrumentation Programs, BRCC

Instrumentation concentration, Technical Studies Associate of Applied Science (AAS): CIP 47.9999 – 0 Stars for degree, 5 Stars for concentration

CURRENT PROGRAM OF STUDY:			PROPOSED, REVISED PROGRAM OF STUDY:		
First semester		Cr Hrs	First semester		Cr Hrs
CORE 1003	Introduction to Craft Skills	3	CORE 1003	Introduction to Craft Skills	3
INST 1113	Basic Instrumentation Principles	3	INST 1119	Instrumentation Level 1	9
INST 1123	Material Handling and Electrical Measurement	3			
INST 1133	Lubricants, Tubing, Piping, and Hoses	3			
GenEd Math	Any department-approved General Education Course in Mathematics	3	INST 1216	Instrumentation Level 2 Part 1	6
	Semester Total:	15		Semester Total:	18
Second Semester			Second Semester		
INST 1213	Temperature, Pressure, Level, and Flow	3	INST 1226	Instrumentation Level 2 Part 2	6
INST 1223	Test Equipment Applications	3	INST 1316	Instrumentation Level 3 Part 1	6
INST 1233	Raceways and Protective Measures	3	INST 1326	Instrumentation Level 3 Part 2	6
INST 1243	Tubing Systems	3			
ENGL 1013	English Composition I	3			
	Semester Total:	15		Semester Total:	18
Third Semester			Third Semester		
INST 2313	System Control	3	INST 1419	Instrumentation Level 4	9
INST 2323	Electrical Circuitry for Instrumentation	3		Semester Total:	9
INST 2333	Conductor Applications and Testing	3			
INST 2343	Process Control Theory	3		Total Program Credit Hours (TD):	45
GenEd Humanities: Any department-approved General Education course in Humanities		3			
	Semester Total:	15			
Fourth Semester					
INST 2413	Instrument Calibration	3			
INST 2423	Programmable Logic Controller (PLC) Systems and Loop Calibration	3			
INST 2433	Distributive System Systems (DCSs), Analyzers, and Monitors	3			

Appendix D: Actions Proposed for NCCER Instrumentation Programs, BRCC

CURRENT PROGRAM OF STUDY:		PROPOSED, REVISED PROGRAM OF STUDY:	
GenEd Soc Sci: Any department-approved General Education course in the Social Sciences	3		
GenEd Phys Sci: Any department-approved General Education course in the Physical Sciences	3		
Semester Total:	15		
Technical Studies AAS, Instrumentation concentration Total Program Credit Hours	60		
<i>Instrumentation Credentials Available:</i>		<i>Instrumentation Credentials Available:</i>	
CORE 1003, Introduction to Craft Skills	3	CORE 1003, Introduction to Craft Skills	3
INST 1113, Basic Instrument Principles	3	INST 1119, Instrumentation Level 1	9
INST 1123, Material Handling and Electrical Measurement	3	CTC, NCCER Instrumentation Level 1	12
INST 1133, Lubricants, Tubing, Piping, and Hoses	3		
INST 1213, Temperature, Pressure, and Flow	3	CORE 1003, Introduction to Craft Skills	3
INST 1223, Test Equipment Applications	3	INST 1119, Instrumentation Level 1	9
INST 1233, Raceways and Protective Measures	3	INST 1216, Instrumentation Level 2 Part 1	6
INST 1243, Tubing Systems	3	INST 1226, Instrumentation Level 2 Part 2	6
CTS, NCCER Instrumentation Level 2	24	CTS, NCCER Instrumentation Level 2	24
INST 2313, System Control	3		
INST 2323, Electrical Circuitry for Instrumentation	3		
INST 2333, Conductor Applications and Testing	3		
INST 2343, Process Control Theory	3		
INST 2413, Instrument Calibration	3		
INST 2423, Programmable Logic Controller (PLC) Systems and Loop Calibration	3		
INST 2433, Distributive Control Systems (DCSs), Analyzers, and Monitors	3		
TD, NCCER Instrumentation Level 4(CTS plus INST 2313-INST 2433)	45		
For more information, contact the Division of Technical Education at 225-359-9201.		Students interested in pursuing the Technical Studies Associate of Applied Science degree with a concentration in Instrumentation should contact the Division of Technical Education at 225-216-8367 for more information.	

Appendix E: Proposed Actions for NCCER Millwright Programs, BRCC

Proposed Addition: NCCER Millwright Level 1 Career and Technical Certificate (CTC): CIP 47.0303 - 5 Stars

PROGRAM OF STUDY:			
Rubric	Course Title	Cr Hrs	Cntct Hrs
CORE 1003	Introduction to Craft Skills	3	75
MILL 1119	Millwright Level 1	9	225
Total Credit Hours:		12	300

Industry-based certifications associated with the coursework in the CTC: NCCER CORE (CORE 1003) and NCCER Millwright Level 1 (MILL 1119).

Proposed Deletion: NCCER Millwright Level 3 Certificate of Technical Studies (CTS) and

Proposed new (replacement) award: NCCER Millwright Level 2 Certificate of Technical Studies (CTS):

CIP 47.0303 - 5 Stars (for both awards)

CURRENT PROGRAM OF STUDY – to be deleted				PROPOSED PROGRAM OF STUDY for new CTS:			
Rubric	Course Title	Cr Hrs	Cntct Hrs	Rubric	Course Title	Cr Hrs	Cntct Hrs
CORE 1003	Introduction to Craft Skills	3	75	CORE 1003	Introduction to Craft Skills	3	75
MILL 1113	Basic Millwright Principles	3	75	MILL 1119	Millwright Level 1	9	225
MILL 1123	Layout, Sealing, and Oxyfuel Cutting	3	75				
MILL 1213	Trade Math I, Sketching, and Blueprints	3	75	MILL 1216	Millwright Level 2 Part 1	6	150
MILL 1223	Specialty Tools and Rigging	3	75				
MILL 1233	Plates, Lubrication, and Bearings	3	75	MILL 1226	Millwright Level 2 Part 2	6	150
MILL 1313	Trade Math II, Measuring, and Packing	3	75				
MILL 1323	Seals, Bearings, and Couplings	3	75				
MILL 1333	Shims, Jigs, Drives, Fans, and Blowers	3	75				
Total Credit Hours:		27	675	Total Credit Hours:		24	600

Appendix E: Proposed Actions for NCCER Millwright Programs, BRCC

Proposed deletion: NCCER Millwright Level 5 Technical Diploma (TD) and

Proposed new (replacement) award: NCCER Millwright Level 4 TD:

CIP 47.0303 – 5 Stars (both awards)

CURRENT PROGRAM OF STUDY: to be deleted				PROPOSED PROGRAM OF STUDY: to be added			
Rubric	Course Title	Cr Hrs	Cont hrs	Rubric	Course Title	Cr Hrs	Cont hrs
CORE 1003	Introduction to Craft Skills	3	75	CORE 1003	Introduction to Craft Skills	3	75
MILL 1113	Basic Millwright Principles	3	75	MILL 1119	Millwright Level 1	9	225
MILL 1123	Layout, Sealing, and Oxyfuel Cutting	3	75				
MILL 1213	Trade Math I, Sketching, and Blueprints I	3	75	MILL 1216	Millwright Level 2 Part 1	6	150
MILL 1223	Specialty Tools and Rigging	3	75				
MILL 1233	Plates, Lubrication, and Bearings	3	75	MILL 1226	Millwright Level 2 Part 2	6	150
MILL 1313	Trade Math II, Measuring, and Packing	3	75				
MILL 1323	Seals, Bearings, and Couplings	3	75				
MILL 13333	Shims, Jigs, Drives, Fans, and Blowers	3	75				
MILL 2413	Conveyors and Conventional Alignment	3	75	MILL 1316	Millwright Level 3 Part 1	6	150
MILL 2423	Pumps and Compressor Systems	3	75				
MILL 2433	Hydraulic Systems and Gearboxes	3	75	MILL 1326	Millwright Level 3 Part 2	6	150
MILL 2513	Reverse and Laser Alignment	3	75				
MILL 2523	Blueprints II and Optical Alignment	3	75	MILL 1419	Millwright Level 4	9	225
MILL 2533	Motors, Preventive Maintenance Inspection, and Vibration Analysis	3	75				
Total Credit Hours:		45	1125	Total Credit Hours:		45	1125

Appendix E: Proposed Actions for NCCER Millwright Programs, BRCC

Millwright concentration, Technical Studies Associate of Applied Science (AAS):

CIP 47.9999 – 0 Stars for degree, 5 Stars for concentration

CURRENT PROGRAM OF STUDY:			PROPOSED, REVISED PROGRAM OF STUDY:		
First semester		Cr Hrs	First semester		Cr Hrs
CORE 1003	Introduction to Craft Skills	3	CORE 1003	Introduction to Craft Skills	3
MILL 1113	Basic Millwright Principles	3	MILL 1119	Millwright Level 1	9
MILL 1123	Layout, Sealing, and Oxyfuel Cutting	3			
ENGL 1013	English Composition I	3			
GenEd Math	Any department-approved General Education Course in Mathematics	3	MILL 1216	Millwright Level 2 Part 1	6
	Semester Total:	15		Semester Total:	18
Second Semester			Second Semester		
MILL 1213	Trade Math I, Sketching, and Blueprints I	3	MILL 1226	Millwright Level 2 Part 2	6
MILL 1223	Specialty Tools and Rigging	3	MILL 1316	Millwright Level 3 Part 1	6
MILL 1233	Plates, Lubrication, and Bearings	3	MILL 1326	Millwright Level 3 Part 2	6
MILL 1313	Trade Math II, Measuring, and Packing	3			
GenEd Humanities: Any department-approved General Education course in Humanities		3			
	Semester Total:	15		Semester Total:	18
Third Semester			Third Semester		
MILL 1323	Seals, Bearing, and Couplings	3	MILL 1419	Millwright Level 4	9
MILL 1333	Shims, Jigs, Drives, Fans, and Blowers	3			
MILL 2413	Conveyors and Conventional Alignment	3		Semester Total:	9
MILL 2423	Pumps and Compressor Systems	3			
GenEd Phys Sci: Any department-approved General Education course in Physical Sciences		3		Total Program Credit Hours (TD):	45
	Semester Total:	15			
Fourth Semester					
MILL 2433	Hydraulic Systems and Gearboxes	3			
MILL 2513	Reverse and Laser Alignment	3			
MILL 2523	Blueprints II and Optical Alignment	3			
MILL 2533	Motors, Preventive Maintenance Inspection, and Vibration Analysis	3			

Appendix E: Proposed Actions for NCCER Millwright Programs, BRCC

CURRENT PROGRAM OF STUDY:		PROPOSED, REVISED PROGRAM OF STUDY:	
GenEd Soc Sci: Any department-approved General Education course in the Social Sciences	3		
Semester Total:	15		
Total Program Credit Hours, Technical Studies AAS, Millwright concentration	60		
<i>Millwright Credentials Available:</i>	Cr Hrs	<i>Millwright Credentials Available:</i>	Cr Hrs
CORE 1003, Introduction to Craft Skills	3	CORE 1003, Introduction to Craft Skills	3
MILL 1113, Basic Millwright Principles	3	MILL 1119, Millwright Level 1	9
MILL 1123, Layout, Sealing, and Oxyfuel Cutting	3	CTC, NCCER Millwright Level 1	12
MILL 1213, Trade Math I, Sketching, and Blueprints I	3		
MILL 1223, Specialty Tools and Rigging	3	CORE 1003, Introduction to Craft Skills	3
MILL 1233, Plates, Lubrication, and Bearings	3	MILL 1119, Millwright Level 1	9
MILL 1313, Trade Math II, Measuring, and Packing	3	MILL 1216, Millwright Level 2 Part 1	6
MILL 1323, Seals, Bearings, and Couplings	3	MILL 1226, Millwright Level 2 Part 2	6
MILL 1333, Shims, Jigs, Drives, Fans, and Blowers	3	CTS, NCCER Millwright Level 2	24
NCCER Millwright Level 3	27		
MILL 2413, Conveyors and Conventional Alignment	3		
MILL 2423, Pumps and Compressor Systems	3		
MILL 2433, Hydraulic Systems and Gearboxes	3		
MILL 2513, Reverse and Laser Alignment	3		
MILL 2523, Blueprints II and Optical Alignment	3		
MILL 2533, Motors, Preventive Maintenance Inspection, and Vibration Analysis	3		
TD, NCCER Millwright Level 5 (CTS plus MILL 2413-MILL 2533)	45		
For more information, contact the Division of Technical Education at 225-359-9201.		Students interested in pursuing The Technical Studies Associate of Applied Science degree with a concentration in Millwright should contact the Division of Technical Education at 225-216-8367 for more information.	

Appendix F: Proposed Actions for NCCER Pipefitting Programs, BRCC

Proposed Addition: NCCER Pipefitting Level 1 Career and Technical Certificate (CTC): CIP 46.0502 – 5 Stars

PROGRAM OF STUDY:			
Rubric	Course Title	Cr Hrs	Cntct Hrs
CORE 1003	Introduction to Craft Skills	3	75
PIPE 1119	Pipefitting Level 1	9	225
Total Credit Hours:		12	300

Industry-based certifications associated with the coursework in the CTC: NCCER CORE (CORE 1003) and NCCER Pipefitting Level 1 (PIPE 1119).

Modification: NCCER Pipefitting Level 2 Certificate of Technical Studies (CTS): CIP 46.0502 – 5 Stars

CURRENT PROGRAM OF STUDY:				PROPOSED, REVISED PROGRAM OF STUDY:			
Rubric	Course Title	Cr Hrs	Cntct Hrs	Rubric	Course Title	Cr Hrs	Cntct Hrs
CORE 1003	Introduction to Craft Skills	3	75	CORE 1003	Introduction to Craft Skills	3	75
PIPE 1116	Pipefitting Level 1	6	105	PIPE 1119	Pipefitting Level 1	9	225
PIPE 1216	Pipefitting Level 2 Part 1	6	105	PIPE 1216	Pipefitting Level 2 Part 1	6	150
PIPE 1226	Pipefitting Level 2 Part 2	6	105	PIPE 1226	Pipefitting Level 2 Part 2	6	150
Total Credit Hours:		21	390	Total Credit Hours:		24	600
Semester Completed:		2nd		Semester Completed:		2nd	

Modification: NCCER Pipefitting Level 4 Technical Diploma (TD): CIP 46.0502 – 5 Stars

CURRENT PROGRAM OF STUDY:				PROPOSED, REVISED PROGRAM OF STUDY:			
Rubric	Course Title	Cr Hrs	Cont hrs	Rubric	Course Title	Cr Hrs	Cont hrs
CORE 1003	Introduction to Craft Skills	3	75	CORE 1003	Introduction to Craft Skills	3	75
PIPE 1116	Pipefitting Level 1	6	105	PIPE 1119	Pipefitting Level 1	9	225
PIPE 1216	Pipefitting Level 2 Part 1	6	105	PIPE 1216	Pipefitting Level 2 Part 1	6	150
PIPE 1226	Pipefitting Level 2 Part 2	6	105	PIPE 1226	Pipefitting Level 2 Part 2	6	150
PIPE 2316	Pipefitting Level 3 Part 1	6	105	PIPE 1316	Pipefitting Level 3 Part 1	6	150
PIPE 2326	Pipefitting Level 3 Part 2	6	105	PIPE 1326	Pipefitting Level 3 Part 2	6	150
PIPE 2416	Pipefitting Level 4 Part 1	6	105	PIPE 1419	Pipefitting Level 4	9	225
PIPE 2426	Pipefitting Level 4 Part 2	6	105				
Total Credit Hours:		45	810	Total Credit Hours:		45	1125
Semester Completed:		5th		Semester Completed:		3rd	

Appendix F: Proposed Actions for NCCER Pipefitting Programs, BRCC

Pipefitting concentration, Technical Studies Associate of Applied Science (AAS): - CIP 47.9999 – 0 Stars for the degree, 5 Stars for the concentration

CURRENT PROGRAM OF STUDY:			PROPOSED, REVISED PROGRAM OF STUDY:		
First semester		Cr Hrs	First semester		Cr Hrs
CORE 1003	Introduction to Craft Skills	3	CORE 1003	Introduction to Craft Skills	3
PIPE 1116	Pipefitting Level 1	6	PIPE 1119	Pipefitting Level 1	9
ENGL 1013	English Composition I	1	PIPE 1216	Pipefitting Level 1 Part 1	6
GenEd Math	Any department-approved General Education Course in Mathematics	3		Semester Total:	18
	Semester Total:	15			
Second Semester			Second Semester		
PIPE 1216	Pipefitting Level 2 Part 1	6	PIPE 1226	Pipefitting Level 2 Part 2	6
PIPE 1226	Pipefitting Level 2 Part 2	6	PIPE 1316	Pipefitting Level 3 Part 1	6
GenEd Humanities:	Any department-approved, SACSCOC-accepted General Education course in Humanities	3	PIPE 1326	Pipefitting Level 3 Part 2	6
	Semester Total:	15		Semester Total:	18
Third Semester			Third Semester		
PIPE 2316	Pipefitting Level 3 Part 1	6	PIPE 1419	Pipefitting Level 4	9
PIPE 2326	Pipefitting Level 3 Part 2	6		Semester Total:	9
GenEd Soc Sci:	Any department-approved General Education course in Social Sciences	3			
	Semester Total:	15		Total Program Credit Hours (TD):	45
Fourth Semester					
PIPE 2416	Pipefitting Level 4 Part 1	6			
PIPE 2426	Pipefitting Level 4 Part 2				
GenEd Phys Sci:	Any department-approved General Education course in the Physical Sciences	3			
	Semester Total:	15			
Technical Studies AAS, Pipefitting concentration Total Program Credit Hours		60			

Appendix F: Proposed Actions for NCCER Pipefitting Programs, BRCC

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<i>Pipefitting Credentials Available:</i>	Cr Hrs	<i>Pipefitting Credentials Available:</i>	Cr Hrs
		CORE 1003, Introduction to Craft Skills	3
		PIPE 1119, Pipefitting Level 1	9
		CTC, NCCER Pipefitting Level 1	12
CORE 1003, Introduction to Craft Skills	3	CORE 1003, Introduction to Craft Skills	3
PIPE 1116, Pipefitting Level 1	6	PIPE 1119, Pipefitting Level 1	9
PIPE 1216, Pipefitting Level 2 Part 1	6	PIPE 1216, Pipefitting Level 2 Part 1	6
PIPE 1226, Pipefitting Level 2 Part 2	6	PIPE 1226, Pipefitting Level 2 Part 2	6
CTS, NCCER Pipefitting Level 2	21	CTS, NCCER Pipefitting Level 2	24
PIPE 2316, Pipefitting Level 3 Part 1	6		
PIPE 2326, Pipefitting Level 3 Part 2	6		
PIPE 2416, Pipefitting Level 4 Part 1	6		
PIPE 2426, Pipefitting Level 4 Part 2	6		
TD, NCCER Pipefitting Level 4 (CTS plus PIPE 2316-PIPE 2426)	45		
For more information, contact the Division of Technical Education at 225-359-9201.		Students interested in pursuing The Technical Studies Associate of Applied Science degree with a concentration in Pipefitting should contact the Division of Technical Education at 225-216-8367 for more information.	



Baton Rouge Community College
201 Community College Dr.
Baton Rouge, LA 70806
(225) 216-8000
www.mybrcc.edu

Appendix G: New courses for the Drafting and Design Technology, Electrical, Instrumentation, Millwright, and Pipefitting concentrations in the Technical Studies AAS

Drafting and Design Technology Concentration

DRFT 1113, Introduction to Industrial Technology. CIP Code: 15.1301. Lecture Hours 1, Lab Hours 4, Credit Hours 3. Prerequisites: None. Co-requisites: CORE 1003, DRFT 1123, and [CSCI 1013 or CSCI 2203]. Suggested Enrollment Cap: 25. Effective Spring 2021.

Course Description: Covers the evolution of technology in industry and its impact. Students will research technology in industry and society, focusing on employment opportunities, career paths, technological growth, salaries, and job descriptions as well as technical, ethical, and professional requirements.

DRFT 1123, Engineering Drafting. CIP Code: 15.1301. Lecture Hours 1, Lab Hours 4, Credit Hours 3. Prerequisites: None. Co-requisites: CORE 1003, DRFT 1113, and [CSCI 1013 or CSCI 2203]. Suggested Enrollment Cap: 25. Effective Spring 2021.

Course Description: Studies the terminology, concepts, theories, and fundamental skills necessary to understand and operate a CAD system. Use the system to graphically communicate through the basic elements of drafting including orthographic projection, sectioning, dimensioning, isometric and oblique pictorial representation, standard symbols, simple auxiliary views, precision, and tolerancing.

DRFT 1213, Descriptive Geometry. CIP Code: 15.1301. Lecture Hours 1, Lab Hours 4, Credit Hours 3. Prerequisites: CORE 1003, DRFT 1113, DRFT 1123, and [CSCI 1013 or CSCI 2203]. Co-requisites: DRFT 1223, DRFT 1233, and DRFT 1243. Suggested Enrollment Cap: 25. Effective Spring 2021.

Course Description: Students will study the basic concepts of descriptive geometry by solving space problems using graphic solutions through orthographic projection. Focus will be placed on the limits of accuracy of the graphic method and empirical data.

DRFT 1223, Architectural Drafting. CIP Code: 15.1301. Lecture Hours 1, Lab Hours 4, Credit Hours 3. Prerequisites: CORE 1003, DRFT 1113, DRFT 1123, and [CSCI 1013 or CSCI 2203]. Co-requisites: DRFT 1213, DRFT 1233, and DRFT 1243. Suggested Enrollment Cap: 25. Effective Spring 2021.

Course Description: Studies the principles and practices of architectural drawing,

terminology, and construction through residential planning and design. Plans include floor plans, elevations, building sections, details, electrical plans, and plot plans. Studies will be introduced to Architectural Revit.

DRFT 1233, Pipe Drafting. CIP Code: 15.1301. Lecture Hours 1, Lab Hours 4, Credit Hours 3. Prerequisites: CORE 1003, DRFT 1113, DRFT 1123, and [CSCI 1013 or CSCI 2203]. Co-requisites: DRFT 1213, DRFT 1223, and DRFT 1243. Suggested Enrollment Cap: 25. Effective Spring 2021.

Course Description: Students will study piping design and drafting fundamentals as used in process industries such as refineries and petrochemical plants. Includes the study, use, and drafting of pipes, fittings, flanges, valves, equipment and structural systems using the latest industry-standard software. Students will use industry standards to create schematic, plan, elevation, isometric, spool, and 3-D drawings of various process piping components/systems.

DRFT 1243, Machine Design Drafting. CIP Code: 15.1301. Lecture Hours 1, Lab Hours 4, Credit Hours 3. Prerequisites: CORE 1003, DRFT 1113, DRFT 1123, and [CSCI 1013 or CSCI 2203]. Co-requisites: DRFT 1213, DRFT 1223, and DRFT 1233. Suggested Enrollment Cap: 25. Effective Spring 2021.

Course Description: Introduces feature-based parametric modeling of simple and complex machine parts, sub-assemblies, and assemblies. Includes fully documenting design projects according to industry standards, including video presentations, animations, project documentation, change orders, file management for design projects, reverse engineering and 3D printing.

DRFT 1313, Light Commercial Building Drafting. CIP Code: 15.1301. Lecture Hours 1, Lab Hours 4, Credit Hours 3. Prerequisites: DRFT 1213, DRFT 1223, DRFT 1233, and DRFT 1243. Co-requisites: DRFT 1323 and DRFT 1333. Suggested Enrollment Cap: 25. Effective Spring 2021.

Course Description: Studies the analysis and solutions for basic problems in the design and construction of small commercial properties using a variety of materials and methods of construction.

DRFT 1323, Civil Drafting Technology. CIP Code: 15.1301. Lecture Hours 1, Lab Hours 4, Credit Hours 3. Prerequisites: DRFT 1213, DRFT 1223, DRFT 1233, and DRFT 1243. Co-requisites: DRFT 1313 and DRFT 1333. Suggested Enrollment Cap: 25. Effective Spring 2021.

Course Description: Studies aspects of mapping in civil drafting from surveying to highway layout. This course covers basic concepts and techniques such as leveling, longitude and latitude, map scales, symbols, directions, plot plans, contours, profiles, and highway cut and fill. Students will use computer-aided design (CAD) software to complete projects related to interpretation of survey data, profiles and cross sections, land subdivision, site and grading plans, and basic earthwork calculations.

DRFT 1333, Special Topics in Drafting. CIP Code: 15.1301. Lecture Hours 1, Lab Hours 4, Credit Hours 3. Prerequisites: DRFT 1213, DRFT 1223, DRFT 1233, and DRFT 1243. Co-requisites: DRFT 1313 and DRFT 1323. Suggested Enrollment Cap: 25. Effective Spring 2021.

Course Description: Students will use industrial and engineering applications of design concepts involving the use of points, planes, and lines, and their spatial relationships. Includes the application of primary, secondary and successive auxiliaries used in various engineering disciplines.

Electrical Concentration

ELEC 1119, Electrical Level 1. CIP Code: 46.0302. Lecture Hours 3, Lab Hours 12, Credit Hours 9. Prerequisites: CORE 1003. Co-requisites: none. Suggested Enrollment Cap: 15. Effective Spring 2021.

Course Description: Covers the National Center for Construction Education and Research (NCCER) Electrical Level 1 Modules 1 - 12: Orientation to the Electrical Trade, Electrical Safety, Introduction to Electrical Circuits, Electrical Theory, Introduction to the National Electrical Code, Device Boxes, Hand Bending, Raceways and Fittings, Conductors and Cables, Basic Electrical Construction Drawings, Residential Electrical Services, and Electrical Test Equipment. Successful completion of this course requires passing the NCCER Level 1 Electrical Modules 1 – 12 Exams with a 70% or higher. This course requires a lab fee*.

* Lab fee = \$180.00/student

Note: this course will replace ELEC 1116, Electrical Level 1, CIP code 46.0302; Lecture Hours 4, Lab Hours 4, Credit Hours 6.

ELEC 1316, Electrical Level 3 Part 1. CIP Code 46.0302. Lecture Hours 2, Lab Hours 8, Credit Hours 6. Prerequisites: ELEC 1216 and ELEC 1226. Co-requisites: ELEC 1326. Suggested Enrollment Cap: 15. Effective Spring 2021.

Course Description: Covers the National Center for Construction Education and Research (NCCER) Electrical Level 3 Modules 1 - 5: Load Calculations - Branch and Feeder Circuits, Conductor Selection and Calculations, Practical Applications of Lighting, Hazardous Locations, and Overcurrent Protection. Successful completion of this course requires passing the NCCER Level 3 Electrical Modules 1 – 5 Exams with a 70% or higher. This course requires a lab fee*.

* Lab fee = \$30.00/student

Note: this course will replace ELEC 2316, Electrical Level 3 Part 1, CIP Code 46.0302; Lecture Hours 5, Lab Hours 2, Credit Hours 6.

ELEC 1326, Electrical Level 3 Part 2. CIP Code 46.0302. Lecture Hours 2, Lab Hours 8, Credit Hours 6. Prerequisites: ELEC 1216 and ELEC 1226. Co-requisites: ELEC

1316. Suggested Enrollment Cap: 15. Effective Spring 2021.

Course Description: Covers the National Center for Construction Education and Research (NCCER) Electrical Level 3 Modules 6 - 11: Distribution Equipment, Transformers, Commercial Electrical Services, Motor Calculations, Voice, Data, and Video, and Motor Controls. Successful completion of this course requires passing the NCCER Level 3 Electrical Modules 6 – 11 Exams with a 70% or higher.

Note: this course will replace ELEC 2326, Electrical Level 3 Part 2, CIP Code 46.0302; Lecture Hours 5, Lab Hours 2, Credit Hours 6.

ELEC 1416, Electrical Level 4. CIP Code 46.0302. Lecture Hours 3, Lab Hours 12, Credit Hours 9. Prerequisites: ELEC 2326 or permission of instructor. Co-requisites: none. Suggested Enrollment Cap: 15. Effective Spring 2021.

Course Description: Covers the National Center for Construction Education and Research (NCCER) Electrical Level 4 Modules 1 - 13: Load Calculations - Feeders and Services, Health Care Facilities, Standby and Emergency Systems, Basic Electronic Theory, Fire Alarm Systems, Specialty Transformers, and Advanced Controls, HVAC (Heating, Ventilation, and Air Conditioning) Controls, Heat Tracing and Freeze Protection, Motor Operation and Maintenance, Medium-Voltage Terminations/Splices, Special Locations, and Fundamentals of Crew Leadership. Successful completion of this course requires passing the NCCER Level 4 Electrical Modules 1 – 13 Exams with a 70% or higher.

Note: This course will replace ELEC 2416 (Electrical Level 4 Part 1; CIP Code 46.0302; Lecture Hours 5, Lab Hours 2, Credit Hours 6) and ELEC 2426 (Electrical Level 4 Part 2; CIP Code 46.0302; Lecture Hours 5, Lab Hours 2, Credit Hours 6).

Instrumentation Concentration:

INST 1119, Instrumentation Level 1. CIP Code: 15.0404. Lecture hours 3, Lab hours 12, Credit hours 9. Prerequisites: CORE 1003. Co-requisites: None. Suggested Enrollment Cap: 20. Effective Spring 2021.

Course Description: Covers the National Center for Construction Education and Research (NCCER) Instrumentation Level 1 Modules 1 – 12. Successful completion of this course requires passing the NCCER Level 1 Modules 1 – 12 Exams with a 70% or higher. This course requires lab and exam fees.

Lab Fee: \$90.00/student; Exam Fee \$30.00/student.

Note: this course will replace the following three courses:

INST 1113, Basic Instrumentation Principles. CIP Code: 15.0404. Lecture hours 1, Lab hours 4, Credit hours 3. Lab Fee: \$30.00/student. Exam Fee: \$10.00/student.

INST 1123, Material Handling and Electrical Measurement. CIP Code: 15.0404. Lecture hours 1, Lab hours 4, Credit hours 3. Lab Fee: \$30.00/student. Exam Fee: \$10.00/student.

INST 1133, Lubricants, Tubing, Piping, and Hoses. CIP Code: 15.0404. Lecture hours 1, Lab hours 4, Credit hours 3. Lab Fee: \$30.00/student. Exam Fee: \$10.00/student.

INST 1216, Instrumentation Level 2 Part 1. CIP Code: 15.0404. Lecture hours 2, Lab hours 8, Credit hours 6. Prerequisites: INST 1119. Co-requisites: None. Suggested Enrollment Cap: 20. Effective Spring 2021.

Course Description: Covers the National Center for Construction Education and Research (NCCER) Instrumentation Level 2 Modules 1 – 6. Successful completion of this course requires passing the NCCER Level 2 Modules 1 – 6 Exams with a 70% or higher. This course requires an exam fee.

Exam Fee: \$20.00/student.

Note: this course will replace the following two courses:

INST 1213, Temperature, Pressure, Level, and Flow. CIP Code: 15.0404. Lecture hours 1, Lab hours 4, Credit hours 3. Exam Fee: \$10.00/student.

INST 1223, Test Equipment Applications. CIP Code: 15.0404. Lecture hours 1, Lab hours 4, Credit hours 3. Exam Fee: \$10.00/student.

INST 1226, Instrumentation Level 2 Part 2. CIP Code: 15.0404. Lecture hours 2, Lab hours 8, Credit hours 6. Prerequisites: INST 1119. Co-requisites: None. Suggested Enrollment Cap: 20. Effective Spring 2021.

Course Description: Covers the National Center for Construction Education and Research (NCCER) Instrumentation Level 2 Modules 7 – 11. Successful completion of this course requires passing the NCCER Level 2 Modules 7 – 11 Exams with a 70% or higher. This course requires lab and exam fees.

Lab Fee: \$60.00/student. Exam Fee: \$20.00/student.

Note: this course will replace the following two courses:

INST 1233, Raceways and Protective Measures. CIP Code: 15.0404. Lecture hours 1, Lab hours 4, Credit hours 3. Lab Fee: \$30.00/student. Exam Fee: \$10.00/student.

INST 1243, Tubing Systems. CIP Code: 15.0404. Lecture hours 1, Lab hours 4, Credit hours 3. Lab Fee: \$30.00/student. Exam Fee: \$10.00/student.

INST 1316, Instrumentation Level 3 Part 1. CIP Code: 15.0404. Lecture hours 2, Lab hours 8, Credit hours 6. Prerequisites: INST 1216 and INST 1226. Co-requisites: INST 1326. Suggested Enrollment Cap: 20. Effective Spring 2021.

Course Description: Covers the National Center for Construction Education and Research (NCCER) Instrumentation Level 3 Modules 1 – 4. Successful completion of this course requires passing the NCCER Level 3 Modules 1 – 4 Exams with a 70% or higher. This course requires lab and exam fees.

Lab Fee: \$30.00/student. Exam Fee: \$20.00/student.

Note: this course will replace the following two courses:

INST 2313, System Control. CIP Code: 15.0404. Lecture hours 1, Lab hours 4, Credit hours 3. Exam Fee: \$10.00/student.

INST 2323, Electrical Circuitry for Instrumentation. CIP Code: 15.0404. Lecture hours 1, Lab hours 4, Credit hours 3. Lab Fee: \$30.00/student. Exam Fee:

\$10.00/student.

INST 1326, Instrumentation Level 3 Part 2. CIP Code: 15.0404. Lecture hours 2, Lab hours 8, Credit hours 6. INST 1216 and INST 1226. Co-requisites: INST 1316. Suggested Enrollment Cap: 20. Effective Spring 2021.

Course Description: Covers the National Center for Construction Education and Research (NCCER) Instrumentation Level 3 Modules 5 – 9. Successful completion of this course requires passing the NCCER Level 3 Modules 5 – 9 Exams with a 70% or higher. This course requires an exam fee.

Exam Fee: \$20.00/student.

Note: this course will replace the following two courses:

INST 2333, Conductor Applications and Testing. CIP Code: 15.0404. Lecture hours 1, Lab hours 4, Credit hours 3. Lab Fee: \$10.00/student.

INST 2343, Process Control Theory. CIP Code: 15.0404. Lecture hours 1, Lab hours 4, Credit hours 3. Lab Fee: \$10.00/student.

INST 1419, Instrumentation Level 4. CIP Code: 15.0404. Lecture hours 3, Lab hours 12, Credit hours 9. Prerequisites: INST 1316 and INST 1326. Co-requisites: None. Suggested Enrollment Cap: 20. Effective Spring 2021.

Course Description: Covers the National Center for Construction Education and Research (NCCER) Instrumentation Level 4 Modules 1 - 7. Successful completion of this course requires passing the NCCER Level 4 Module 2 1 - 7 Exams with a 70% or higher. This course requires an exam fee.

Exam Fee \$30.00/student.

Note: this course will replace the following three courses:

INST 2413, Instrument Calibration. CIP Code: 15.0404. Lecture hours 1, Lab hours 4, Credit hours 3. Exam Fee: \$10.00/student.

INST 2423, Programmable Logic Controller Systems and Loop Calibration. CIP Code: 15.0404. Lecture hours 1, Lab hours 4, Credit hours 3. Exam Fee: \$10.00/student.

INST 2433, Distributive Control Systems, Analyzers, and Monitors. CIP Code: 15.0404. Lecture hours 1, Lab hours 4, Credit hours 3. Exam Fee: \$10.00/student.

Millwright Concentration

MILL 1119, Millwright Level 1. CIP Code: 47.0303. Lecture hours 3, Lab hours 12, Credit hours 9. Prerequisites: CORE 1003. Co-requisites: None. Suggested Enrollment Cap: 20. Effective Spring 2021.

Course Description: This course covers the National Center for Construction Education and Research (NCCER) Millwright Level 1 Modules 1 – 6. Successful completion of this course requires passing the NCCER Level 1 Modules 1 – 6 Exams with a 70% or higher. This course requires lab and exam fees.

Lab Fee: \$60.00/student. Exam Fee: \$20.00/student.

Note this course replaces the following two courses.

MILL 1113, Basic Millwright Principles. CIP Code: 47.0303. Lecture hours 1, Lab hours 4, Credit hours 3. Lab Fee: \$30.00/student. Exam Fee: \$10.00/student.
MILL 1123, Layout, Sealing, and Oxyfuel Cutting. CIP Code: 47.0303. Lecture hours 1, Lab hours 4, Credit hours 3. Lab Fee: \$30.00/student. Exam Fee: \$10.00/student.

MILL 1216, Millwright Level 2 Part 1. CIP Code: 47.0303. Lecture hours 2, Lab hours 8, Credit hours 6. Prerequisites: MILL 1119. Co-requisites: None. Suggested Enrollment Cap: 20. Effective Spring 2021.

Course Description: This course covers the National Center for Construction Education and Research (NCCER) Millwright Level 2 Modules 1 – 6. Successful completion of this course requires passing the NCCER Level 2 Modules 1 – 6 Exams with a 70% or higher. This course requires lab and exam fees.

Lab Fee: \$30.00/student. Exam Fee: \$20.00/student.

Note this course replaces the following two courses.

MILL 1213, Trade Math I, Sketching, and Blueprints I. CIP Code: 47.0303. Lecture hours 1, Lab hours 4, Credit hours 3. Exam Fee: \$10.00/student.

MILL 1223, Specialty Tools and Rigging. CIP Code: 47.0303. Lecture hours 1, Lab hours 4, Credit hours 3. Lab Fee: \$30.00/student. Exam Fee: \$10.00/student.

MILL 1226, Millwright Level 2 Part 2. CIP Code: 47.0303. Lecture hours 2, Lab hours 8, Credit hours 6. Prerequisites: MILL 1119. Co-requisites: None. Suggested Enrollment Cap: 20. Effective Spring 2021.

Course Description: This course covers the National Center for Construction Education and Research (NCCER) Millwright Level 2 Modules 7 – 9. Successful completion of this course requires passing the NCCER Level 2 Modules 7 – 9 Exams with a 70% or higher. This course requires lab and exam fees.

Lab Fee: \$30.00/student. Exam Fee: \$10.00/student.

Note this course replaces the following course.

MILL 1233, Plates, Lubrication, and Bearings. CIP Code: 47.0303. Lecture hours 1, Lab hours 4, Credit hours 3. Lab Fee: \$30.00/student. Exam Fee: \$10.00/student.

MILL 1316, Millwright Level 3 Part 1. CIP Code: 47.0303. Lecture hours 2, Lab hours 8, Credit hours 6. Prerequisites: MILL 1216 and MILL 1226. Co-requisites: MILL 1326. Suggested Enrollment Cap: 20. Effective Spring 2021.

Course Description: This course covers the National Center for Construction Education and Research (NCCER) Millwright Level 3 Modules 1 – 7. Successful completion of this course requires passing the NCCER Level 3 Modules 1 – 7 Exams with a 70% or higher. This course requires an exam fee.

Exam Fee: \$20.00/student.

Note this course replaces the following two courses.

MILL 1313, Trade Math II, Measuring, and Packing. CIP Code: 47.0303. Lecture

hours 1, Lab hours 4, Credit hours 3. Exam Fee: \$10.00/student.

MILL 1323, Seals, Bearings, and Couplings. CIP Code: 47.0303. Lecture hours 1, Lab hours 4, Credit hours 3. Exam Fee: \$10.00/student.

MILL 1326, Millwright Level 3 Part 2. CIP Code: 47.0303. Lecture hours 2, Lab hours 8, Credit hours 6. Prerequisites: MILL 1216 and MILL 1226. Co-requisites: MILL 1316. Suggested Enrollment Cap: 20. Effective Spring 2021.

Course Description: This course covers the National Center for Construction Education and Research (NCCER) Millwright Level 3 Modules 8 – 12. Successful completion of this course requires passing the NCCER Level 3 Modules 8 – 12 Exams with a 70% or higher. This course requires an exam fee.

Exam Fee: \$10.00/student.

Note this course replaces the following course.

MILL 1333, Shims, Jigs, Drives, Fans, and Blowers. CIP Code: 47.0303. Lecture hours 1, Lab hours 4, Credit hours 3. Exam Fee: \$10.00/student.

MILL 1419, Millwright Level 1. CIP Code: 47.0303. Lecture hours 3, Lab hours 12, Credit hours 9. Prerequisites: MILL 1316 and MILL 1326. Co-requisites: None. Suggested Enrollment Cap: 20. Effective Spring 2021.

Course Description: This course covers the National Center for Construction Education and Research (NCCER) Millwright Level 4 Modules 1 – 11. Successful completion of this course requires passing the NCCER Level 4 Modules 1 – 11 Exams with a 70% or higher. This course requires lab and exam fees.

Lab Fee: \$30.00/student. Exam Fee: \$30.00/student.

Note this course replaces the following three courses.

MILL 2413, Conveyors and Conventional Alignment. CIP Code: 47.0303. Lecture hours 1, Lab hours 4, Credit hours 3. Lab Fee: \$30.00/student. Exam Fee: \$10.00/student.

MILL 2423, Pumps and Compressor Systems. CIP Code: 47.0303. Lecture hours 1, Lab hours 4, Credit hours 3. Exam Fee: \$10.00/student.

MILL 2433, Hydraulic Systems and Gearboxes. CIP Code: 47.0303. Lecture hours 1, Lab hours 4, Credit hours 3. Exam Fee: \$10.00/student.

Pipefitting Concentration:

PIPE 1119, Pipefitting Level 1. CIP Code 46.0502. Lecture Hours 3, Lab Hours 12, Credit Hours 9. Prerequisites: CORE 1003. Co-requisites: none. Suggested Enrollment Cap: 15. Effective Spring 2021.

Course Description: Covers the National Center for Construction Education and Research (NCCER) Pipefitting Level 1 Modules 1 - 6: Orientation to the Trade, Pipefitting Hand Tools, Pipefitting Power Tools, Oxyfuel Cutting, Ladders and Scaffolds, and Motorized Equipment. Successful completion of this course requires passing the NCCER Level 1 Pipefitting Modules 1 – 6 Exams with a 70% or higher. This course requires a lab fee*.

* Lab fee = \$80.00/student

Note: this course will replace PIPE 1116, Pipefitting Level 1; CIP Code 46.0502; Lecture Hours 5, Lab Hours 2, Credit Hours 6.

PIPE 1316, Pipefitting Level 3 Part 1. CIP Code 46.0502. Lecture Hours 2, Lab Hours 8, Credit Hours 6. Prerequisites: PIPE 1216 and PIPE 1226. Co-requisites: PIPE 1326. Suggested Enrollment Cap: 15. Effective Spring 2021.

Course Description: Covers the National Center for Construction Education and Research (NCCER) Pipefitting Level 3 Modules 1 - 5: Rigging Equipment, Rigging Practices, Standards and Specifications, Advanced Trade Math, and Advanced Motorized Equipment. Successful completion of this course requires passing the NCCER Level 3 Pipefitting Modules 1 – 5 Exams with a 70% or higher.

Note: this course will replace PIPE 2316, Pipefitting Level 3 Part 1; CIP Code 46.0502; Lecture Hours 5, Lab Hours 2, Credit Hours 6.

PIPE 1326, Pipefitting Level 3 Part 2. CIP Code 46.0502. Lecture Hours 2, Lab Hours 8 Credit Hours 6. Prerequisites: PIPE 1216 and PIPE 1226. Co-requisites: PIPE 1316. Suggested Enrollment Cap: 15. Effective Spring 2021.

Course Description: Covers the National Center for Construction Education and Research (NCCER) Pipefitting Level 3 Modules 6 - 9: Introduction to Above-Ground Pipe Installation, Field Routing and Vessel Trim, Pipe Hangers and Supports, and Testing Piping Systems and Equipment. Successful completion of this course requires passing the NCCER Level 3 Pipefitting Modules 6 – 9 Exams with a 70% or higher. This course requires a lab fee*.

* Lab fee = \$80.00/student

Note: this course will replace PIPE 2326, Pipefitting Level 3 Part 2; CIP Code 46.0502; Lecture Hours 5, Lab Hours 2, Credit Hours 6.

PIPE 1419, Pipefitting Level 4. CIP Code 46.0502. Lecture Hours 3, Lab Hours 12, Credit Hours 9. Prerequisites: PIPE 1316 and PIPE 1326. Co-requisites: none. Suggested Enrollment Cap: 15. Effective Spring 2021.

Course Description: Covers the National Center for Construction Education and Research (NCCER) Pipefitting Level 4 Modules 1 - 9: Advanced Blueprint Reading, Advanced Fabrication, Stress Relieving and Aligning, Steam Traps, In-Line Specialties, Special Piping, Hot Taps, Maintaining Valves, and Introduction to Supervisory Roles. Successful completion of this course requires passing the NCCER Level 4 Pipefitting Modules 1 - 9 Exams with a 70% or higher. This course requires a lab fee.

Lab fee: \$245.00/student

Note: this course will replace PIPE 2416 (Pipefitting Level 4 Part 1; CIP Code 46.0502; Lecture Hours 5, Lab Hours 2, Credit Hours 6; lab fee \$180.00/student) and PIPE 2426 (Pipefitting Level 4 Part 2; CIP Code 46.0502; Lecture Hours 5, Lab Hours 2, Credit Hours 6; lab fee \$65.00/student).



Appendix H - Baton Rouge- Capital - Regional Labor Market Area 2 Long Term Projections for All Occupations to 2026 (in order by occupational code)

RLMA 2 : Ascension, East Baton Rouge, East Feliciana, Iberville, Livingston, Pointe Coupee, St. Helena, Tangipahoa, Washington, West Baton Rouge, & West Feliciana

Star Rating ¹	Stars	Occ. Code ²	Occupational Title ³	2016 Estimate ⁴	2026 Projected ⁵	10 Year Growth ⁶	Annual New Growth ⁷	Annual Exits ⁸	Annual Transfers ⁹	Annual Total Openings ¹⁰	2018 RLMA 2 Hourly Average Wage ¹¹	2018 RLMA 2 Annual Average Wage ¹²	2018 RLMA 2 Hourly Avg. Wage - Lowest 10% ¹³	2018 RLMA 2 Annual Avg. Wage - Lowest 10% ¹⁴	2018 RLMA 2 Hourly Avg. Wage - Highest 10% ¹⁵	2018 RLMA 2 Annual Avg. Wage - Highest 10% ¹⁶	Most Significant Source of Education or Training ¹⁷	Work Experience	Job Training	Occupational License Required ¹⁸
★★★★	4	49-3021	Automotive Body and Related Repairers	420	490	70	10	20	30	50	\$23.18	\$48,205	\$13.27	\$27,595	\$34.97	\$72,732	Postsecondary non-degree award	None	Moderate-term on-the-job training	Cert. Avail.
★★★★	4	17-3011	Architectural and Civil Drafters	260	290	30	0	10	20	30	\$25.55	\$53,141	\$17.29	\$35,970	\$35.12	\$73,043	Associate's Degree	None	Occupation-specific training	Cert. Avail.
★★★★	4	17-3012	Electrical and Electronics Drafters	60	70	10	0	0	0	10	\$33.12	\$68,892	\$17.32	\$36,019	\$49.62	\$103,210	Associate's degree	None	Occupation-specific training	Cert. Avail.
★★★★	4	17-3013	Mechanical Drafters	340	400	60	10	10	20	40	\$33.56	\$69,795	\$19.34	\$40,232	\$56.58	\$117,694	Associate's Degree	None	Occupation-specific training	Cert. Avail.
		17-3019	Drafters, All Other	320	380	50	10	10	20	30	\$28.64	\$59,563	\$17.04	\$35,436	\$46.30	\$96,302	Associate's Degree	None	Occupation-specific training	Cert. Avail.
★★★★	4	47-2111	Electricians	4,020	4,180	160	20	140	310	470	\$25.38	\$52,800	\$16.58	\$34,485	\$36.26	\$75,427	Postsecondary non-degree award	None	Apprenticeship	Lic. Req.
★★★	3	47-3013	Helpers--Electricians	1,490	1,540	40	0	60	150	210	\$14.82	\$30,824	\$9.77	\$20,315	\$21.63	\$44,988	High school diploma or equivalent	None	Short-term on-the-job training	Cert. Avail.
★★★★	4	49-2094	Electrical and Electronics Repairers, Commercial and Industrial Equipment	260	270	10	0	10	20	20	\$31.39	\$65,291	\$16.20	\$33,698	\$46.22	\$96,146	Postsecondary non-degree award	None	Long-term on-the-job training	Cert. Avail.
★★★★★	5	51-8093	Petroleum Pump System Operators, Refinery Operators, and Gaugers	1,660	1,820	170	20	40	130	190	\$37.59	\$78,177	\$26.47	\$55,065	\$48.23	\$100,327	Postsecondary non-degree award	None	Long-term on-the-job training	Cert. Avail.
★★★★	4	51-8091	Chemical Plant and System Operators	2,390	2,400	10	0	60	180	240	\$32.43	\$67,451	\$19.58	\$40,725	\$46.69	\$97,119	Associate's Degree	None	Long-term on-the-job training	Cert. Avail.
★★★★	4	51-9011	Chemical Equipment Operators and Tenders	620	650	30	0	20	50	70	\$32.69	\$67,994	\$20.33	\$42,278	\$44.74	\$93,060	Associate's Degree	None	Moderate-term on-the-job training	Cert. Avail.
★★★★	4	49-9044	Millwrights	430	460	30	0	10	30	40	\$27.62	\$57,443	\$18.15	\$37,762	\$37.03	\$77,015	Postsecondary non-degree award	None	Apprenticeship	Cert. Avail.
★★★★★	5	49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	1,890	2,090	200	20	60	100	190	\$33.92	\$70,551	\$19.52	\$40,606	\$57.51	\$119,611	Postsecondary non-degree award	Less than 5 years	Occupation-specific training	Cert. Avail.
★★★★★	5	51-1011	First-Line Supervisors of Production and Operating Workers	2,750	2,950	200	20	90	180	290	\$45.48	\$94,598	\$22.12	\$46,004	\$74.26	\$154,456	Postsecondary non-degree award	Less than 5 years	Occupation-specific training	Cert. Avail.
★★★★★	5	47-2152	Plumbers, Pipefitters, and Steamfitters	3,520	3,810	290	30	130	250	410	\$28.01	\$58,271	\$15.98	\$33,240	\$38.88	\$80,879	Postsecondary non-degree award	None	Apprenticeship	Lic. Req.
★★★	3	47-3015	Helpers--Pipefitters, Plumbers, Pipefitters, and Steamfitters	660	710	60	10	30	70	100	\$16.90	\$35,158	\$12.58	\$26,166	\$22.51	\$46,812	High school diploma or equivalent	None	Short-term on-the-job training	Cert. Avail.
★★	2	49-9098	Helpers--Installation, Maintenance, and Repair Workers	730	830	100	10	40	60	110	\$14.06	\$29,249	\$8.73	\$18,154	\$18.73	\$38,955	High school diploma or equivalent	None	Moderate-term on-the-job training	Cert. Avail.

¹ Stars represent occupational outlook and wages. Five star occupations have the best outlook and pay the highest wages.

² Unique code assigned to each occupation describing knowledge, skills and abilities necessary to perform a variety of activities and tasks.
<http://online.onetcenter.org/>

³ Title of the occupation.

⁴ 2016 Annual Average employment from employer payroll files, with estimates for self-employed workers.

⁵ 2026 Projected employment estimate includes new jobs and replacement needs of employers.

⁶ Projected 10 year growth in an occupation.

⁷ Number of projected new jobs for the occupation.

⁸ Number of jobs needed to fill those workers leaving an occupation.

⁹ Number of jobs needed to fill those workers retiring.

¹⁰ Annual job openings as a function of job separations (retirements + turnover) + new growth.

¹¹ 2018 Hourly average wage for all workers in this occupation.

¹² 2018 Annual average wage for all workers in this occupation.

¹³ Average hourly wage for lowest 10 percent of workers in this occupation.

¹⁴ Average annual wage for lowest 10 percent of workers in this occupation.

¹⁵ Average hourly wage for highest 10 percent of workers in this occupation.

¹⁶ Annual average wage of highest 10 percent of workers in this occupation.

¹⁷ Most Significant Source of Education- Researched and designated by the Bureau of Labor Statistics (BLS) and enhanced by Louisiana Workforce Commission

Long-Term Tng. & Exp. = Long-Term training and experience (more than 12 months of on-the-job training)

Mod-term Tng. & Exp. = Moderate-term training and experience (1 to 12 months of combined on-the-job experience and informal training)

Short-term Tng. & Exp. = Short-term training and experience (up to 1 month of on-the-job experience)

¹⁸ Louisiana Licensing Guide reference describing those occupations regulated by state boards, commissions or agencies.

<http://www.laworks.net/Downloads/LMI/licensingguide.pdf>

NA - Wages from the 2018 Occupational Wage Survey were not available because of confidentiality, or only annual wages are available for most of the education related occupations.

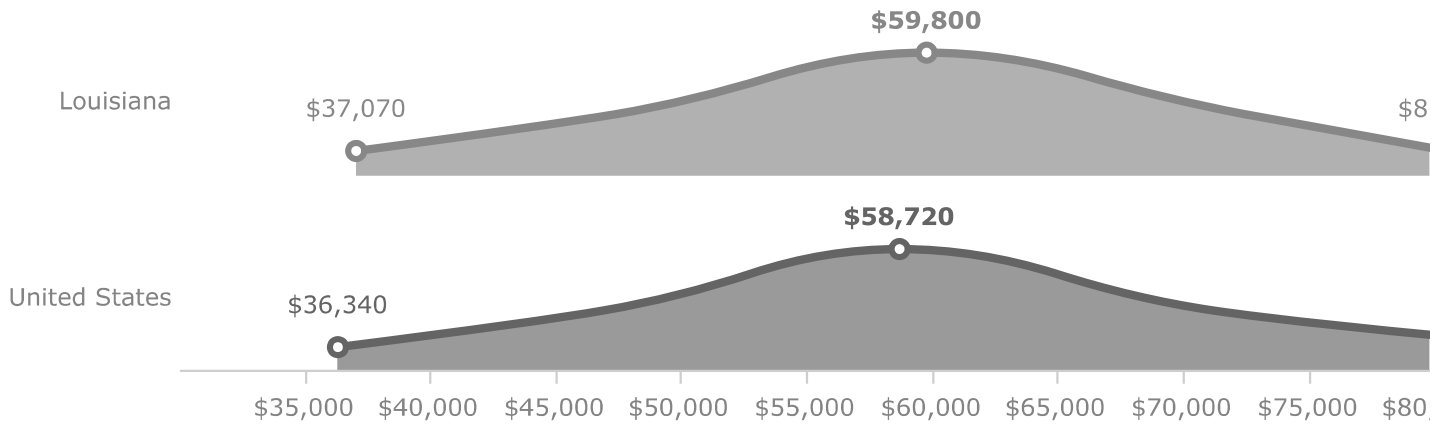


Louisiana Wages for: 49-9069.00 - Precision Instrument and Equipment Repairers, All Other

View wages for state:

View wages near ZIP Code:

View wages:



In Louisiana:

- Workers on average earn **\$59,800**.
- 10% of workers earn **\$37,070 or less**.
- 10% of workers earn **\$80,590 or more**.

In the United States:

- Workers on average earn **\$58,720**.
- 10% of workers earn **\$36,340 or less**.
- 10% of workers earn **\$85,160 or more**.

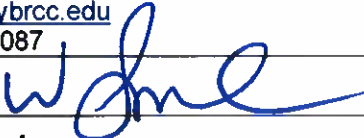
Source: Bureau of Labor Statistics [2019 wage data](#)

Full Details [Save Table \(XLSX/CSV\)](#)

Location	Annual Low (10%)	Annual Q _L (25%)	Annual Median (50%)	Annual Q _U (75%)	Annual High (90%)
United States	\$36,340	\$46,960	\$58,720	\$71,170	\$85,160
Louisiana	\$37,070	\$47,420	\$59,800	\$72,470	\$80,590
Baton Rouge, LA	\$54,560	\$60,460	\$68,800	\$75,760	\$79,940
Lafayette, LA	\$38,770	\$46,160	\$55,010	\$66,960	\$76,660
Lake Charles, LA	\$38,340	\$62,260	\$80,280	\$102,080	\$142,610
New Orleans-Metairie, LA	\$37,900	\$44,090	\$56,450	\$71,590	\$81,200




Request to Terminate an Academic Degree Program or Administrative/Research Unit

1. Institution: Baton Rouge Community College	
2. Type of Termination (check one) <input checked="" type="checkbox"/> A. Academic Program (If A, complete <i>all</i> remaining sections) <input type="checkbox"/> B. Administrative Unit (If B, skip sections 3, 4, 5, and 6) <input type="checkbox"/> C. Research Unit – Center or Institute (If C, skip sections 3, 4, 5, and 6)	
3. Degree Designation. (BA, MS, PhD, etc.): Certificate of Technical Studies (CTS) and Technical Diploma (TD)	
4. Title and CIP Code. NCCER Millwright Level 3 (CTS), CIP 47.0303, and NCCER Millwright Level 5 TD, CIP 47.0303	
5. Semester/year at which no new enrollments will be accepted. Fall 2020	
6. Teach-out plan, including semester/year at which reporting of degrees shall cease. Teach-out is not needed, as no students are enrolled in the Millwright curriculum at BRCC.	
7. Reason for request. (Ex: low demand, job opportunities, changing focus, program duplication, loss of funding sources, etc.) <p>The proposed action has resulted from an initiative to reduce career and technical education (CTE) programs, specifically technical diplomas, to 3-semester programs. The NCCER Millwright Level 5 curriculum is not needed for students to be competitive in the job market, and makes completion of the technical diploma in three semesters nearly impossible. BRCC has proposed a Level 4 technical diploma to replace the Level 5 award, and a Level 2 certificate of technical studies to replace the Level 3 certificate proposed for deletion.</p> <p><i>* Include statements which address the impact of the termination upon remaining programs/units (if applicable). For example, a request to terminate the Department of Chemistry should also include information about the academic programs in that Department – will they be maintained or terminated as well? If maintained, where will they reside? Will the department maintaining these programs be re-named? How will this further affect the administrative structure at the institution? Append documentation to this form.</i></p>	
8. If collaboration with other institutions is involved, identify partners. Each participating institution must submit a separate request form. N/A	
9. Program/Unit Contact (name, title, email address, telephone number) Dr. Brandy M. Tyson-Polk, Dean of Technical Education Email: tysonb@mybrcc.edu Phone: 225-216-8087	
Campus Head: 	Date: 9/16/2020
Management Board:	Date:

For Academic Program Termination: note the SACS/COC requirements (Substantive Change) for notification, teach-out plan/agreement, and request for SACS approval following BOR approval. Send BOR/AcAf a copy of the SACS/COC response to finalize the action.



Request to Terminate an Academic Degree Program or Administrative/Research Unit

1. Institution: Baton Rouge Community College	
2. Type of Termination (check one) <input checked="" type="checkbox"/> A. Academic Program (If A, complete <i>all</i> remaining sections) <input type="checkbox"/> B. Administrative Unit (If B, skip sections 3, 4, 5, and 6) <input type="checkbox"/> C. Research Unit – Center or Institute (If C, skip sections 3, 4, 5, and 6)	
3. Degree Designation. (BA, MS, PhD, etc.): CTS	
4. Title and CIP Code. Drivability Technician 47.0604	
5. Semester/year at which no new enrollments will be accepted. Summer 2021	
6. Teach-out plan, including semester/year at which reporting of degrees shall cease. Currently, there are two student cohorts in the pipeline to receive the Drivability Technician CTS. One cohort will complete in Spring 2021, and the other cohort follows in Summer 2021. The following courses must be offered and completed to ensure timely completion of this exit point. AUTO 1103 Engine Design AUTO 1614 Automotive Advanced Electrical AUTO 1803 Engine Performance I AUTO 1813 Engine Performance II AUTO 1351 Automotive Internship III AUTO 1451 Automotive Internship IV	
7. Reason for request. (Ex: low demand, job opportunities, changing focus, program duplication, loss of funding sources, etc.) The proposed action has resulted from an initiative to reduce career and technical education (CTE) programs, specifically technical diplomas, to 3-semester programs. Currently, the Automotive Technician Technical Diploma (TD) has four (4) exit points that include the following: Suspension, Steering, and Brakes Technician CTS, Drivetrain Technician CTS, Automotive Electrical Systems Technician CTS, and Drivability Technician CTS. As a part of the initiative, BRCC is reducing the number of Automotive Internship courses from four to two, which increases the amount of overlap in courses and credit hours between the Drivability and Electrical CTSs. The Drivability Technician CTS was designated for deletion for the BRCC program offerings. <i>* Include statements which address the impact of the termination upon remaining programs/units (if applicable). For example, a request to terminate the Department of Chemistry should also include information about the academic programs in that Department – will they be maintained or terminated as well? If maintained, where will they reside? Will the department maintaining these programs be re-named? How will this further affect the administrative structure at the institution? Append documentation to this form.</i>	
8. If collaboration with other institutions is involved, identify partners. Each participating institution must submit a separate request form. N/A	
9. Program/Unit Contact (name, title, email address, telephone number) Dr. Brandy M. Tyson-Polk, Dean of Technical Education Email: tysonb@mybrcc.edu Phone: 225-216-8087	
Campus Head: 	Date: 9/11/2020
Management Board:	Date:

For Academic Program Termination: note the SACS/COC requirements (Substantive Change) for notification, teach-out plan/agreement, and request for SACS approval following BOR approval. Send BOR/AcAf a copy of the SACS/COC response to finalize the action.