

## 2 Academic Degrees and Certifications

Under the CPET Leadership are five academic programs providing various certificates or degrees (electrical, EHS, instrumentation, non-destructive testing, and process technology). In addition, the welding program is under the same leadership although the program is housed in a different building. This project section lists the courses that are associated with each program area. Refer to Appendix 2 for a complete summary of the student learning outcomes for these courses.

<u>Electrical Technology</u>	<u>Environmental, Health, &amp; Safety Technology</u>
<p><b><u>Occupational Certificate (15 hrs.)</u></b>            CETT 1302 – Electricity Principles            ELPT 1215 - Electrical Calculations I            ELPT 1325 – National Electric Code 1            ELPT 1345 - Commercial Wiring            ELPT 1429 – Residential Wiring</p> <p><b><u>Certificate of Technology (42 hrs.)</u></b>            Occupational Certificate + the following 27 hrs.:            ELPT 1351 - Electrical Machines            ELPT 1357 - Industrial Wiring            ELPT 1441 - Motor Control            ELPT 2215 - Electrical Calculations II            ELPT 2301 – Journeyman Electrician Exam Review            ELPT 2305 - Transformers and Motors            ELPT 2325 – National Electrical Code II            ELPT 2337 – Electrical Planning &amp; Estimating            ELPT 2343 – Electrical System Design</p> <p><b><u>Level 2 Certificate (45 hrs.)</u></b>            Certificate of Technology + the following 3 hrs.:            ELPT 2319 – Programmable Logic Controllers I</p> <p><b><u>Associate of Applied Science (60 hrs.)</u></b>            Level 2 certificate + 15 hrs. general studies (composition, math, speech, humanities, social studies)</p> <p><b><u>Enhanced Skills Certificate (8 hrs.)</u></b>            ELPT 2449 – Industrial Automation            ELPT 1440 – Master Electrician Exam Review I</p>	<p><b><u>Level 2 Certificate (34 credit hrs.)</u></b>            EPCT 1301 – Hazardous Waste Operations &amp; Emergency Response (HAZWOPER) Training and Related Topics            EPCT 1305 – Environmental Regulations Overview            EPCT 1307 – Intro. to Environmental, Safety, &amp; Health            EPCT 1311 – Introduction to Environmental Science            EPCT 1313 – Contingency Planning            OSHT 1307 – Construction Site Safety and Health            OSHT 1309 – Physical Hazards Control            OSHT 1313 – Accident Prevention, Inspection, and Investigation            OSHT 2309 – Safety Program Management            OSHT 2320 – Safety Training Presentation Techniques            OSHT 2401 – OSHA Regulations – General Industry</p> <p><b><u>Associate of Applied Science (60 hrs.)</u></b>            Level 2 certificate + 23 hrs. general studies (composition 1&amp;2, math, chemistry 1, chemistry or biology, humanity, social science)</p> <p><b><u>Process Safety Certificate Program (12 hrs)</u></b>            “We are excited to announce the Process Safety Certificate Program ... This new program, based on the established foundation of Mary Kay O’Connor Process Safety Center at Texas A&amp;M University (MKOPSC), will promote the ownership of process safety at all levels of operations. ... We anticipate three groups of incumbent worker students: technician, operators and contractor supervision.”</p> <p><u>4 key courses</u></p> <ul style="list-style-type: none"> <li>• Introduction to Process Safety</li> <li>• Introduction to Risk Management</li> <li>• Fire Protection and Emergency Response</li> <li>• Industrial Safety and Engineering Fundamentals</li> </ul>

Coming  
Spring 2021

<b><u>Instrumentation Technology</u></b>	<b><u>Inspection Technology</u></b>
<p><b><u>Level 2 Certificate (44 hrs.)</u></b>            CETT 1302 - Electricity Principles            ELPT 2319 - Programmable Logic Controllers I            ENER 1240 - Employee Success in Energy Industry            ENER 1330 - Basic Mechanical Skills for Energy            ETWR 1302 – Introduction to Technical Writing            INCR 1302 - Physics of Instrumentation            INTC 1315 - Final Control Elements            INTC 1322 - Analog Controls I            INTC 1355 - Unit Operations            INTC 2310 - Principles of Industrial Measurement II            INTC 2330 - Instrumentation Systems Troubleshooting            INTC 2333 - Instrumentation Systems Installation            INTC 2359 - Distributed Control Systems            INTC 2388 - Technology/Technician            OSH 1320 - Energy Industrial Safety            TECM 1301 – Industrial Mathematics</p> <p><b><u>Associate of Applied Science (60 hrs.)</u></b>            Level 2 certificate + 16 hrs. general studies (speech, humanity, composition, social science, chemistry)</p> <p><b><u>Enhanced Skills Certificate (12 hrs.)</u></b>            INTC 1375 – Sample Systems            INTC 1348 – Analytical Instrumentation Credits            INTC 2345 – Advanced Analyzers            INTC 2374 – Physical Properties Analyzers</p>	<p><b><u>Level I Certificate of Technology (29 hrs)</u></b>            METL 1313 – Introduction to Corrosion            METL 1401 – Introduction to Metallurgy            NDTE 1301 – Film Interpretation of Weldments            NDTE 1405 – Introduction to Ultrasonics: Levels 1,2            NDTE 1410 – Liquid Penetrant, Magnetic Particle, and Visual Testing (Levels 1, 2)            QCTC 1448 – Metrology and Prints            QCTC 1470 – Introduction to the Inspection Industry            QCTC 2331 – Standards and Codes</p> <p><b><u>NDT Level 2 Certificate (45 hrs.)</u></b>            Level 1 Certificate + the following 16 hrs.:            NDTE 1440 – Eddy Current Testing            NDTE 1454 – Intermediate Ultrasonics: Flaw Detection and Sizing            NDTE 2401 – Advanced Ultrasonics: Phased Array and A.U.T.            WLDG 2455 – Advanced Metallurgy – OR --            NDTE 2411 – Weld Inspection</p> <p><b><u>Fixed Equipment Inspection Level 2 Certificate (45 hrs.)</u></b>            Level 1 Certificate + the following 16 hrs.:            NDTE 2411 – Preparation for Certified Welding Inspector Exam            NDTE 2339 – Pressure Piping Inspection            NDTE 2440 – Pressure Vessel Inspection            WLDG 2455 – Advanced Metallurgy</p> <p><b><u>Associate of Applied Science (60 hrs.)</u></b>            Level 2 certificate + 15 hrs. general studies (speech, math, humanity, composition, social science)</p>

<b><u>Process Technology</u></b>	<b><u>Welding Technology</u></b>
<p><b><u>Level 2 Certificate (48 credit hrs.)</u></b>            CHEM 1305 – Intro. Chemistry I + lab            ENER 1240 – Employee Success in Energy Industry            ETWR 1302 – Introduction to Technical Writing            PTAC 1302 – Intro. to Process Technology            PTAC 1308 – Safety, Health, and Environment I            PTAC 1410 – Process Technology I – Equipment            PTAC 1432 – Process Instrumentation I            PTAC 2314 – Principles of Quality            PTAC 2420 – Process Technology II – Systems            PTAC 2438 - Process Technology III – Operations            PTAC 2446 – Process Troubleshooting            PTRT 1301 – Intro to Petroleum Industry            SCIT 1418 – Applied Physics            TECM 1301 – Industrial Mathematics</p> <p><b><u>Associate of Applied Science (60 hrs.)</u></b>            Level 2 certificate + 12 hrs. general studies (composition, social science, speech, humanity)</p> <p><b><u>Enhanced Skills Certificate – Chemical Technician (12 hrs.)</u></b>            CHEM 1311 – General Chemistry I + lab            CHEM 2323 – Organic Chemistry + lab            CHEM 1312 – General Chemistry II + lab</p>	<p><b><u>Stick Pipe Welder – Occupational Certificate (16 hrs.)</u></b>            WLDG 1428 – Intro to Shielded Metal Arc Welding (SMAW)            WLDG 2406 – Intermediate Pipe Welding            WLDG 2443 – Advanced Shielded Metal Arc Welding (SMAW)            WLDG 2453 – Advanced Pipe Welding</p> <p><b><u>Combination Welder – Certificate of Technology (24 hrs.)</u></b>            Stick Pipe Welder Occupational Certificate plus the following 8 hrs.:            WLDG 1434 – Intro. To Gas Tungsten Welding (GTAW)            WLDG 2451 – Advanced Gas Tungsten Arc Welding (GTAW)</p> <p><b><u>Gas Shielded Welding – Certificate of Technology (24 hrs.)</u></b>            WLDG 1412 – Introduction to Flux Cored Arc Welding            WLDG 1413 – Introduction to Blueprint Reading            WLDG 1430 – Intro to Gas Metal Arc Welding (GMAW)            WLDG 1434 – Intro. To Gas Tungsten Welding (GTAW)            WLDG 2413 – Intermediate Welding Using Multiple Processes            WLDG 2451 – Advanced Gas Tungsten Arc Welding (GTAW)</p> <p><b><u>Level 2 Certificate (42 hrs.)</u></b>            Stick Pipe Welder Certificate            Gas Shielded Welder Certificate            WLDG 1204 – Fundamentals of Oxy-Fuel Welding and Cutting</p> <p><b><u>Associate of Applied Science (60 hrs.)</u></b>            Level 2 certificate            15 hrs. of general studies ( math, humanities, composition, speech, social science)</p>