

**KELLOGG COMMUNITY COLLEGE**  
**INDUSTRIAL WELDING**  
**COURSE OPTIONS**

**FALL 2024**

Certificate: 25 credits

Associate in Applied Science: 60 credits (combination of industrial welding, technical electives, and general education credit requirements)

All costs are subject to change without notice. Please call 269-965-4137 to verify.

| Module Subject Code and Number            | Module Title   | Credit      | Contact Hours | Lab Fees      | Tuition         | Total Cost      |
|---|--|-------------|---------------|---------------|-----------------|-----------------|
| <input type="checkbox"/> INWE C910-2201   | WELDING ORIENTATION<br>The orientation must be completed at the EAC in Albion prior to registration. Please call 517-630-8169 to verify available orientation times. |             | 2             | 0.00          | 0.00            | 0.00            |
| <b>UNIT 05 BASICS OF WELDING</b>          |  |             |               |               |                 |                 |
| <input type="checkbox"/> INWE 05010-2201  | WELDING SHOP SAFETY RULES  | 0.17        | 4             | 4.00          | 46.50           | 50.50           |
| <input type="checkbox"/> INWE 05020-2201  | JOINTS WELDS POSITIONS   | 0.13        | 3             | 9.00          | 35.56           | 44.56           |
| <input type="checkbox"/> INWE 05030-2201  | RULES AND SQUARES  | 0.13        | 3             | 9.00          | 35.56           | 44.56           |
| <b>UNIT TOTAL</b>                         |  | <b>0.43</b> | <b>10</b>     | <b>22.00</b>  | <b>117.62</b>   | <b>139.62</b>   |
| <b>UNIT 10 OXYACETYLENE WELDING</b>       |  |             |               |               |                 |                 |
| <input type="checkbox"/> INWE 10010-2201  | OXY-FUEL WELDING TERMS   | 0.17        | 4             | 9.00          | 46.50           | 55.50           |
| <input type="checkbox"/> INWE 10020-2201  | SET UP OXY-FUEL WELD STAT  | 0.08        | 2             | 9.00          | 21.88           | 30.88           |
| <input type="checkbox"/> INWE 10030-2201  | RUN BEADS W/WO FILL  | 0.29        | 7             | 28.00         | 79.32           | 107.32          |
| <input type="checkbox"/> INWE 10040-2201  | WELD JOINTS FLAT POSITION  | 1.00        | 24            | 45.00         | 273.50          | 318.50          |
| <b>UNIT TOTAL</b>                         |  | <b>1.54</b> | <b>37</b>     | <b>91.00</b>  | <b>421.20</b>   | <b>512.20</b>   |
| <b>UNIT 15 CUTTING PROCESSES</b>          |  |             |               |               |                 |                 |
| <input type="checkbox"/> INWE 15010-2201  | BASIC CUTTING PRACTICES  | 0.13        | 3             | 9.00          | 35.56           | 44.56           |
| <input type="checkbox"/> INWE 15020-2201  | CUT FERROUS MET W OXY FUEL   | 0.33        | 8             | 31.00         | 90.26           | 121.26          |
| <input type="checkbox"/> INWE 15030-2201  | CUTTING METALS W PLASMA  | 0.33        | 8             | 33.00         | 90.26           | 123.26          |
| <b>UNIT TOTAL</b>                         |  | <b>0.79</b> | <b>19</b>     | <b>73.00</b>  | <b>216.08</b>   | <b>289.08</b>   |
| <b>UNIT 20 BRAZING AND SOLDERING</b>      |  |             |               |               |                 |                 |
| <input type="checkbox"/> INWE 20010-2201  | BRAZ JOINTS FLAT POSITION  | 0.33        | 8             | 41.00         | 90.26           | 131.26          |
| <input type="checkbox"/> INWE 20020-2201  | BRAZ V-GROOVE JOINTS   | 0.21        | 5             | 34.00         | 57.44           | 91.44           |
| <input type="checkbox"/> INWE 20030-2201  | SILVER BRAZ DISSIMILAR METALS  | 0.13        | 3             | 35.00         | 35.56           | 70.56           |
| <input type="checkbox"/> INWE 20040-2201  | LEAD SOLDERING SEAMS   | 0.25        | 6             | 35.00         | 68.38           | 103.38          |
| <b>UNIT TOTAL</b>                         |  | <b>0.92</b> | <b>22</b>     | <b>145.00</b> | <b>251.64</b>   | <b>396.64</b>   |
| <b>UNIT 25 SHIELDED METAL ARC WELDING</b> |  |             |               |               |                 |                 |
| <input type="checkbox"/> INWE 25010-2201  | SMAW TERMS DEFINITIONS   | 0.17        | 4             | 9.00          | 46.50           | 55.50           |
| <input type="checkbox"/> INWE 25020-2201  | ELECTRODES FOR SMAW  | 0.21        | 5             | 14.00         | 57.44           | 71.44           |
| <input type="checkbox"/> INWE 25030-2201  | STRIKE ARC RUN BEADS   | 0.67        | 16            | 45.00         | 183.25          | 228.25          |
| <input type="checkbox"/> INWE 25040-2201  | ANALYZE WELD CHARACTERISTICS   | 0.13        | 3             | 9.00          | 35.56           | 44.56           |
| <input type="checkbox"/> INWE 25050-2201  | MULTIPASS FILLET WELDS   | 0.50        | 12            | 45.00         | 136.75          | 181.75          |
| <input type="checkbox"/> INWE 25060-2201  | WELD SIZE WEAVE TECHNIQUE  | 0.50        | 12            | 29.00         | 136.75          | 165.75          |
| <input type="checkbox"/> INWE 25070-2201  | CORNER JOINT FLAT POSITION   | 0.67        | 16            | 29.00         | 183.25          | 212.25          |
| <input type="checkbox"/> INWE 25080-2201  | V-GROOVE BUTT W BACKING  | 0.50        | 12            | 64.00         | 136.75          | 200.75          |
| <input type="checkbox"/> INWE 25090-2201  | V-GROOVE BUTT WO BACKING   | 0.67        | 16            | 63.00         | 183.25          | 246.25          |
| <b>UNIT TOTAL</b>                         |  | <b>4.02</b> | <b>96</b>     | <b>307.00</b> | <b>1,099.50</b> | <b>1,406.50</b> |
| <b>UNIT 30 ADVANCED ARC WELDING</b>       |  |             |               |               |                 |                 |
| <input type="checkbox"/> INWE 30010-2201  | TEE JOINTS VERTICAL UP   | 0.58        | 14            | 45.00         | 158.63          | 203.63          |
| <input type="checkbox"/> INWE 30020-2201  | BUTT W BACK VERTICAL UP  | 0.46        | 11            | 64.00         | 125.81          | 189.81          |
| <input type="checkbox"/> INWE 30030-2201  | BUTT WO BACK VERTICAL UP   | 0.75        | 18            | 63.00         | 205.13          | 268.13          |
| <input type="checkbox"/> INWE 30040-2201  | TEE JOINTS VERTICAL DOWN   | 0.29        | 7             | 29.00         | 79.32           | 108.32          |
| <input type="checkbox"/> INWE 30050-2201  | BUTT W BACK VERTICAL DOWN  | 0.42        | 10            | 64.00         | 114.87          | 178.87          |
| <input type="checkbox"/> INWE 30060-2201  | BUT WO BACK VERTICAL DOWN  | 0.33        | 8             | 63.00         | 90.26           | 153.26          |

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| <b>UNIT 30      ADVANCED ARC WELDING (CONTINUED)</b> |                              |             |               |               |                 |                 |
| <input type="checkbox"/> INWE 30070-2201             | BUTT W BACK HORIZONTAL       | 0.50        | 12            | 64.00         | 136.75          | 200.75          |
| <input type="checkbox"/> INWE 30080-2201             | BUTT WO BACK HORIZONTAL      | 0.50        | 12            | 63.00         | 136.75          | 199.75          |
| <input type="checkbox"/> INWE 30090-2201             | TEE JOINTS OVERHEAD          | 0.50        | 12            | 29.00         | 136.75          | 165.75          |
| <input type="checkbox"/> INWE 30100-2201             | BUTT W BACK OVERHEAD         | 0.58        | 14            | 64.00         | 158.63          | 222.63          |
| <input type="checkbox"/> INWE 30110-2201             | BUTT WO BACK OVERHEAD        | 0.83        | 20            | 63.00         | 227.01          | 290.01          |
| <b>UNIT TOTAL</b>                                    |                              | <b>5.74</b> | <b>138</b>    | <b>611.00</b> | <b>1,569.91</b> | <b>2,180.91</b> |
| <b>UNIT 35      WELDING METALLURGY</b>               |                              |             |               |               |                 |                 |
| <input type="checkbox"/> INWE 35010-2201             | INTRO TO METALLURGY          | 0.46        | 11            | 9.00          | 125.81          | 134.81          |
| <input type="checkbox"/> INWE 35020-2201             | EXAMINE IDENTIFY METALS      | 0.13        | 3             | 14.00         | 35.56           | 49.56           |
| <input type="checkbox"/> INWE 35030-2201             | METALLURGY FUND CAST IRON    | 0.13        | 3             | 9.00          | 35.56           | 44.56           |
| <input type="checkbox"/> INWE 35040-2201             | METALLURGY FUND STAINLESS    | 0.13        | 3             | 9.00          | 35.56           | 44.56           |
| <input type="checkbox"/> INWE 35050-2201             | TESTING METALS               | 0.42        | 10            | 9.00          | 114.87          | 123.87          |
| <b>UNIT TOTAL</b>                                    |                              | <b>1.27</b> | <b>30</b>     | <b>50.00</b>  | <b>347.36</b>   | <b>397.36</b>   |
| <b>UNIT 40      GAS METAL ARC WELDING</b>            |                              |             |               |               |                 |                 |
| <input type="checkbox"/> INWE 40010-2201             | EXPLAINING GMAW              | 0.29        | 7             | 34.00         | 79.32           | 113.32          |
| <input type="checkbox"/> INWE 40020-2201             | START ARC RUN BEADS GMAW     | 0.17        | 4             | 29.00         | 46.50           | 75.50           |
| <input type="checkbox"/> INWE 40030-2201             | GMAW FCAW WELD ALL POSITIONS | 1.67        | 40            | 93.00         | 456.75          | 549.75          |
| <input type="checkbox"/> INWE 40040-2201             | GMAW OF ALUMINUM             | 0.67        | 16            | 73.00         | 183.25          | 256.25          |
| <b>UNIT TOTAL</b>                                    |                              | <b>2.80</b> | <b>67</b>     | <b>229.00</b> | <b>765.82</b>   | <b>994.82</b>   |
| <b>UNIT 45      GAS TUNGSTEN ARC WELDING</b>         |                              |             |               |               |                 |                 |
| <input type="checkbox"/> INWE 45010-2201             | EXPLAINING GTAW              | 0.42        | 10            | 30.00         | 114.87          | 144.87          |
| <input type="checkbox"/> INWE 45020-2201             | START ARC RUN BEADS GTAW     | 0.42        | 10            | 29.00         | 114.87          | 143.87          |
| <input type="checkbox"/> INWE 45030-2201             | GTAW ALUMINUM FLAT POSITION  | 1.25        | 30            | 73.00         | 341.88          | 414.88          |
| <input type="checkbox"/> INWE 45040-2201             | BASIC JOINTS STAINLESS       | 1.25        | 30            | 57.00         | 341.88          | 398.88          |
| <input type="checkbox"/> INWE 45050-2201             | GTAW ALUMINUM OUT POSITION   | 1.67        | 40            | 83.00         | 456.75          | 539.75          |
| <b>UNIT TOTAL</b>                                    |                              | <b>5.01</b> | <b>120</b>    | <b>272.00</b> | <b>1,370.25</b> | <b>1,642.25</b> |
| <b>UNIT 50      PIPE WELDING</b>                     |                              |             |               |               |                 |                 |
| <input type="checkbox"/> INWE 50010-2201             | IDENTIFYING PIPE WELDING     | 0.21        | 5             | 14.00         | 57.44           | 71.44           |
| <input type="checkbox"/> INWE 50020-2201             | 2G FIXED POSITION            | 0.83        | 20            | 71.00         | 227.01          | 298.01          |
| <input type="checkbox"/> INWE 50030-2201             | 5G FIXED VERTICAL UP         | 1.25        | 30            | 66.00         | 341.88          | 407.88          |
| <input type="checkbox"/> INWE 50040-2201             | 5G FIXED VERTICAL DOWN       | 1.04        | 25            | 71.00         | 284.44          | 355.44          |
| <input type="checkbox"/> INWE 50050-2201             | 6G FIXED POSITION            | 1.04        | 25            | 73.00         | 284.44          | 357.44          |
| <b>UNIT TOTAL</b>                                    |                              | <b>4.37</b> | <b>105</b>    | <b>295.00</b> | <b>1,195.21</b> | <b>1,490.21</b> |
| <b>UNIT 55      SPECIAL APPLICATIONS</b>             |                              |             |               |               |                 |                 |
| <input type="checkbox"/> INWE 55010-2201             | WELDING BLUEPRINT READING    | 0.17        | 4             | 9.00          | 46.50           | 55.50           |
| <input type="checkbox"/> INWE 55020-2201             | FABRICATING A PROJECT        | 0.50        | 12            | 60.00         | 136.75          | 196.75          |
| <input type="checkbox"/> INWE 55030-2201             | CAST IRON REPAIR             | 0.17        | 4             | 28.00         | 46.50           | 74.50           |
| <input type="checkbox"/> INWE 55040-2201             | HARDSURFACING                | 0.17        | 4             | 28.00         | 46.50           | 74.50           |
| <input type="checkbox"/> INWE 55050-2201             | TOOL AND DIE WELDING         | 0.67        | 16            | 53.00         | 183.25          | 236.25          |
| <b>UNIT TOTAL</b>                                    |                              | <b>1.68</b> | <b>40</b>     | <b>178.00</b> | <b>459.50</b>   | <b>637.50</b>   |

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| <b>TOTAL</b>                   |              | <b>28.57</b> | <b>686</b>    | <b>2,273.00</b> | <b>7,814.09</b> | <b>10,087.09</b> |

**SPECIAL PROJECT MODULES**

(These modules cannot be articulated. Students must have instructor approval to register.)

|  |                              |  |   |        |      |        |
|--|------------------------------|--|---|--------|------|--------|
| <input type="checkbox"/> *INWE C710-2201 | BASIC WELDING PROJECT        |  | 2 | 70.00  | 0.00 | 70.00  |
| <input type="checkbox"/> *INWE C720-2201 | INTERMEDIATE WELDING PROJECT |  | 4 | 140.00 | 0.00 | 140.00 |
| <input type="checkbox"/> *INWE C730-2201 | ADVANCED WELDING PROJECT     |  | 6 | 210.00 | 0.00 | 210.00 |

\*Module(s) cannot be paid for using certain types of financial aid. Please direct all inquiries to the staff at the EAC registration desk.

**FOR OFFICE USE ONLY**

Instructor Approval \_\_\_\_\_ Date \_\_\_\_\_

Total Credit \_\_\_\_\_ Total Contact \_\_\_\_\_ Total Cost \_\_\_\_\_