

# KELLOGG COMMUNITY COLLEGE

## INDUSTRIAL WELDING

### COURSE OPTIONS

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 |
|---|-------------------------------|-------------|---------------|
| <input type="checkbox"/> INWE C910-2201   | WELDING ORIENTATION           |             | 2             |
| The orientation must be completed at the EAC in Albion prior to registration. Please call 517-630-8169 to verify available orientation times. |                               |             |               |
| <b>UNIT 05 BASICS OF WELDING</b>  |                               |             |               |
| <input type="checkbox"/> INWE 05010-2201  | WELDING SHOP SAFETY RULES     | 0.17        | 4             |
| <input type="checkbox"/> INWE 05020-2201  | JOINTS WELDS POSITIONS        | 0.13        | 3             |
| <input type="checkbox"/> INWE 05030-2201  | RULES AND SQUARES             | 0.13        | 3             |
| <b>UNIT TOTAL</b>   |                               | <b>0.43</b> | <b>10</b>     |
| <b>UNIT 10 OXYACETYLENE WELDING</b>   |                               |             |               |
| <input type="checkbox"/> INWE 10010-2201  | OXY-FUEL WELDING TERMS        | 0.17        | 4             |
| <input type="checkbox"/> INWE 10020-2201  | SET UP OXY-FUEL WELD STAT     | 0.08        | 2             |
| <input type="checkbox"/> INWE 10030-2201  | RUN BEADS W/WO FILL           | 0.29        | 7             |
| <input type="checkbox"/> INWE 10040-2201  | WELD JOINTS FLAT POSITION     | 1.00        | 24            |
| <b>UNIT TOTAL</b>   |                               | <b>1.54</b> | <b>37</b>     |
| <b>UNIT 15 CUTTING PROCESSES</b>  |                               |             |               |
| <input type="checkbox"/> INWE 15010-2201  | BASIC CUTTING PRACTICES       | 0.13        | 3             |
| <input type="checkbox"/> INWE 15020-2201  | CUT FERROUS MET W OXY FUEL    | 0.33        | 8             |
| <input type="checkbox"/> INWE 15030-2201  | CUTTING METALS W PLASMA       | 0.33        | 8             |
| <b>UNIT TOTAL</b>   |                               | <b>0.79</b> | <b>19</b>     |
| <b>UNIT 20 BRAZING AND SOLDERING</b>  |                               |             |               |
| <input type="checkbox"/> INWE 20010-2201  | BRAZ JOINTS FLAT POSITION     | 0.33        | 8             |
| <input type="checkbox"/> INWE 20020-2201  | BRAZ V-GROOVE JOINTS          | 0.21        | 5             |
| <input type="checkbox"/> INWE 20030-2201  | SILVER BRAZ DISSIMILAR METALS | 0.13        | 3             |
| <input type="checkbox"/> INWE 20040-2201  | LEAD SOLDERING SEAMS          | 0.25        | 6             |
| <b>UNIT TOTAL</b>   |                               | <b>0.92</b> | <b>22</b>     |
| <b>UNIT 25 SHIELDED METAL ARC WELDING</b>   |                               |             |               |
| <input type="checkbox"/> INWE 25010-2201  | SMAW TERMS DEFINITIONS        | 0.17        | 4             |
| <input type="checkbox"/> INWE 25020-2201  | ELECTRODES FOR SMAW           | 0.21        | 5             |
| <input type="checkbox"/> INWE 25030-2201  | STRIKE ARC RUN BEADS          | 0.67        | 16            |
| <input type="checkbox"/> INWE 25040-2201  | ANALYZE WELD CHARACTERISTICS  | 0.13        | 3             |
| <input type="checkbox"/> INWE 25050-2201  | MULTIPASS FILLET WELDS        | 0.50        | 12            |
| <input type="checkbox"/> INWE 25060-2201  | WELD SIZE WEAVE TECHNIQUE     | 0.50        | 12            |
| <input type="checkbox"/> INWE 25070-2201  | CORNER JOINT FLAT POSITION    | 0.67        | 16            |
| <input type="checkbox"/> INWE 25080-2201  | V-GROOVE BUTT W BACKING       | 0.50        | 12            |
| <input type="checkbox"/> INWE 25090-2201  | V-GROOVE BUTT WO BACKING      | 0.67        | 16            |
| <b>UNIT TOTAL</b>   |                               | <b>4.02</b> | <b>96</b>     |

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|--|--|-------------|---------------|
| <b>UNIT 30      ADVANCED ARC WELDING</b>     |  |             |               |
| <input type="checkbox"/>                     | INWE 30010-2201 TEE JOINTS VERTICAL UP       | 0.58        | 14            |
| <input type="checkbox"/>                     | INWE 30020-2201 BUTT W BACK VERTICAL UP      | 0.46        | 11            |
| <input type="checkbox"/>                     | INWE 30030-2201 BUTT WO BACK VERTICAL UP     | 0.75        | 18            |
| <input type="checkbox"/>                     | INWE 30040-2201 TEE JOINTS VERTICAL DOWN     | 0.29        | 7             |
| <input type="checkbox"/>                     | INWE 30050-2201 BUTT W BACK VERTICAL DOWN    | 0.42        | 10            |
| <input type="checkbox"/>                     | INWE 30060-2201 BUT WO BACK VERTICAL DOWN    | 0.33        | 8             |
| <input type="checkbox"/>                     | INWE 30070-2201 BUTT W BACK HORIZONTAL       | 0.50        | 12            |
| <input type="checkbox"/>                     | INWE 30080-2201 BUTT WO BACK HORIZONTAL      | 0.50        | 12            |
| <input type="checkbox"/>                     | INWE 30090-2201 TEE JOINTS OVERHEAD          | 0.50        | 12            |
| <input type="checkbox"/>                     | INWE 30100-2201 BUTT W BACK OVERHEAD         | 0.58        | 14            |
| <input type="checkbox"/>                     | INWE 30110-2201 BUTT WO BACK OVERHEAD        | 0.83        | 20            |
| <b>UNIT TOTAL</b>                            |  | <b>5.74</b> | <b>138</b>    |
| <b>UNIT 35      WELDING METALLURGY</b>       |  |             |               |
| <input type="checkbox"/>                     | INWE 35010-2201 INTRO TO METALLURGY          | 0.46        | 11            |
| <input type="checkbox"/>                     | INWE 35020-2201 EXAMINE IDENTIFY METALS      | 0.13        | 3             |
| <input type="checkbox"/>                     | INWE 35030-2201 METALLURGY FUND CAST IRON    | 0.13        | 3             |
| <input type="checkbox"/>                     | INWE 35040-2201 METALLURGY FUND STAINLESS    | 0.13        | 3             |
| <input type="checkbox"/>                     | INWE 35050-2201 TESTING METALS               | 0.42        | 10            |
| <b>UNIT TOTAL</b>                            |  | <b>1.27</b> | <b>30</b>     |
| <b>UNIT 40      GAS METAL ARC WELDING</b>    |  |             |               |
| <input type="checkbox"/>                     | INWE 40010-2201 EXPLAINING GMAW              | 0.29        | 7             |
| <input type="checkbox"/>                     | INWE 40020-2201 START ARC RUN BEADS GMAW     | 0.17        | 4             |
| <input type="checkbox"/>                     | INWE 40030-2201 GMAW FCAW WELD ALL POSITIONS | 1.67        | 40            |
| <input type="checkbox"/>                     | INWE 40040-2201 GMAW OF ALUMINUM             | 0.67        | 16            |
| <b>UNIT TOTAL</b>                            |  | <b>2.80</b> | <b>67</b>     |
| <b>UNIT 45      GAS TUNGSTEN ARC WELDING</b> |  |             |               |
| <input type="checkbox"/>                     | INWE 45010-2201 EXPLAINING GTAW              | 0.42        | 10            |
| <input type="checkbox"/>                     | INWE 45020-2201 START ARC RUN BEADS GTAW     | 0.42        | 10            |
| <input type="checkbox"/>                     | INWE 45030-2201 GTAW ALUMINUM FLAT POSITION  | 1.25        | 30            |
| <input type="checkbox"/>                     | INWE 45040-2201 BASIC JOINTS STAINLESS       | 1.25        | 30            |
| <input type="checkbox"/>                     | INWE 45050-2201 GTAW ALUMINUM OUT POSITION   | 1.67        | 40            |
| <b>UNIT TOTAL</b>                            |  | <b>5.01</b> | <b>120</b>    |
| <b>UNIT 50      PIPE WELDING</b>             |  |             |               |
| <input type="checkbox"/>                     | INWE 50010-2201 IDENTIFYING PIPE WELDING     | 0.21        | 5             |
| <input type="checkbox"/>                     | INWE 50020-2201 2G FIXED POSITION            | 0.83        | 20            |
| <input type="checkbox"/>                     | INWE 50030-2201 5G FIXED VERTICAL UP         | 1.25        | 30            |

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| <input type="checkbox"/> INWE 50040-2201 | 5G FIXED VERTICAL DOWN      | 1.04         | 25            |
| <input type="checkbox"/> INWE 50050-2201 | 6G FIXED POSITION           | 1.04         | 25            |
| <b>UNIT TOTAL</b>                        |                             | <b>4.37</b>  | <b>105</b>    |
| <hr/>                                    |                             |              |               |
| <b>UNIT 55</b>                           | <b>SPECIAL APPLICATIONS</b> |              |               |
| <input type="checkbox"/> INWE 55010-2201 | WELDING BLUEPRINT READING   | 0.17         | 4             |
| <input type="checkbox"/> INWE 55020-2201 | FABRICATING A PROJECT       | 0.50         | 12            |
| <input type="checkbox"/> INWE 55030-2201 | CAST IRON REPAIR            | 0.17         | 4             |
| <input type="checkbox"/> INWE 55040-2201 | HARDSURFACING               | 0.17         | 4             |
| <input type="checkbox"/> INWE 55050-2201 | TOOL AND DIE WELDING        | 0.67         | 16            |
| <b>UNIT TOTAL</b>                        |                             | <b>1.68</b>  | <b>40</b>     |
| <b>TOTAL</b>                             |                             | <b>28.57</b> | <b>686</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 |
| <input type="checkbox"/> *INWE C720-2201 | INTERMEDIATE WELDING PROJECT |  | 4 |
| <input type="checkbox"/> *INWE C730-2201 | ADVANCED WELDING PROJECT     |  | 6 |

\*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 \_\_\_\_\_