

# KELLOGG COMMUNITY COLLEGE

## INDUSTRIAL PIPEFITTING

2011-2012

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Unit / Module	Number	Packet Title	Credit	Contact Hours	Lab Fees	Tuition	Total Cost
<b>UNIT 1 PLANT SAFETY</b>							
<input type="checkbox"/>	INPF 1A	INTRODUCTION TO SAFETY	0.25	6	3.00	38.88	41.88
<input type="checkbox"/>	INPF 1B	PERSONAL PROTECTIVE EQUIPMENT	0.17	4	3.00	26.44	29.44
<input type="checkbox"/>	INPF 1C	ELECTRICAL SAFETY	0.17	4	3.00	26.44	29.44
<input type="checkbox"/>	INPF 1D	FIRE PROTECTION	0.21	5	3.00	32.66	35.66
<input type="checkbox"/>	INPF 1E	GOVERNMENT SAFETY REGULATIONS	0.08	2	3.00	12.44	15.44
<b>UNIT TOTAL</b>			<b>0.88</b>	<b>21</b>	<b>15.00</b>	<b>136.86</b>	<b>151.86</b>
<b>UNIT 2 MATHEMATICS FOR PIPEFITTING</b>							
<input type="checkbox"/>	INPF 2A	MATHEMATICS I	0.17	4	6.00	26.44	32.44
<input type="checkbox"/>	INPF 2B	MATHEMATICS II	0.67	16	11.00	104.19	115.19
<input type="checkbox"/>	INPF 2C	MATHEMATICS III	0.67	16	11.00	104.19	115.19
<b>UNIT TOTAL</b>			<b>1.51</b>	<b>36</b>	<b>28.00</b>	<b>234.82</b>	<b>262.82</b>
<b>UNIT 3 INTRODUCTION TO PIPEFITTING</b>							
<input type="checkbox"/>	INPF 3A	BASIC PIPEFITTING SCIENCE	0.08	2	10.00	12.44	22.44
<input type="checkbox"/>	INPF 3B	BASIC RATIO OF PIPE CAPACITIES	0.08	2	10.00	12.44	22.44
<input type="checkbox"/>	INPF 3C	TYPES OF PIPING	0.17	4	10.00	26.44	36.44
<input type="checkbox"/>	INPF 3D	PIPEFITTING TOOLS & MATERIALS	0.25	6	10.00	38.88	48.88
<input type="checkbox"/>	INPF 3E	PIPE CONNECTIONS	0.25	6	10.00	38.88	48.88
<input type="checkbox"/>	INPF 3F	PIPE CUTTING & THREADS	0.17	4	10.00	26.44	36.44
<input type="checkbox"/>	INPF 3G	PIPE FITTINGS	0.38	9	10.00	59.09	69.09
<input type="checkbox"/>	INPF 3H	VALVES MANUAL	0.33	8	10.00	51.32	61.32
<input type="checkbox"/>	INPF 3J	VALVES SELF CONTAINED	0.29	7	10.00	45.10	55.10
<input type="checkbox"/>	INPF 3K	PIPING SUPPORT	0.25	6	10.00	38.88	48.88
<input type="checkbox"/>	INPF 3L	PIPING BLACK & GALVANIZED	0.33	8	20.00	51.32	71.32
<input type="checkbox"/>	INPF 3M	PIPING STAINLESS	0.33	8	37.00	51.32	88.32
<input type="checkbox"/>	INPF 3N	PIPING FLANGED	0.42	10	18.00	65.31	83.31
<input type="checkbox"/>	INPF 3P	PIPING PVC	0.29	7	11.00	45.10	56.10
<input type="checkbox"/>	INPF 3Q	PIPING FLARE	0.25	6	10.00	38.88	48.88
<input type="checkbox"/>	INPF 3R	PIPING COMPRESSION	0.25	6	10.00	38.88	48.88
<input type="checkbox"/>	INPF 3S	PIPING COPPER SWEAT	1.67	40	37.00	259.69	296.69
<input type="checkbox"/>	INPF 3T	TUBE BENDING	0.29	7	10.00	45.10	55.10
<input type="checkbox"/>	INPF 3U	PIPING COMBINATIONS	0.42	10	13.00	65.31	78.31
<b>UNIT TOTAL</b>			<b>6.50</b>	<b>156</b>	<b>266.00</b>	<b>1010.82</b>	<b>1276.82</b>
<b>UNIT 4 CODE AND THE PIPEFITTING TRADE</b>							
<input type="checkbox"/>	INPF 4A	PURPOSE OF THE PLUMBING CODE	0.08	2	3.00	12.44	15.44
<input type="checkbox"/>	INPF 4B	USING THE PLUMBING CODE	0.17	4	3.00	26.44	29.44
<input type="checkbox"/>	INPF 4C	REQUIRE FOR PIPING INSTALLA	0.25	6	12.00	38.88	50.88
<input type="checkbox"/>	INPF 4D	IMPORTANCE OF BACKFLOW PREVENT	0.96	23	4.00	149.28	153.28
<input type="checkbox"/>	INPF 4E	PURPOSE OF TRAPS	0.29	7	9.00	45.10	54.10
<input type="checkbox"/>	INPF 4F	PURPOSE OF NFPA	0.08	2	3.00	12.44	15.44
<input type="checkbox"/>	INPF 4G	USING THE NFPA	0.17	4	3.00	26.44	29.44
<input type="checkbox"/>	INPF 4H	WET FIRE PROTECTION SYSTEMS	0.08	2	3.00	12.44	15.44

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<b>UNIT 4 CODE AND THE PIPEFITTING TRADE (continued)</b>							
<input type="checkbox"/>	INPF 4J	INSTALL WET FIRE PROTEC SYSTEM	0.29	7	17.00	45.10	62.10
<input type="checkbox"/>	INPF 4K	DRY FIRE PROTECTION SYSTEMS	0.08	2	3.00	12.44	15.44
<input type="checkbox"/>	INPF 4L	INSTALL DRY FIRE PROTEC SYSTEM	0.25	6	14.00	38.88	52.88
<input type="checkbox"/>	INPF 4M	TEST FIRE PROTECTION SYSTEMS	0.17	4	3.00	26.44	29.44
<input type="checkbox"/>	INPF 4N	PURPOSE OF ASME CODE	0.08	2	3.00	12.44	15.44
<input type="checkbox"/>	INPF 4P	USING THE ASME CODE	0.17	4	3.00	26.44	29.44
<input type="checkbox"/>	INPF 4Q	IMPOR OF PRESSURE SAFETIES	0.08	2	3.00	12.44	15.44
<input type="checkbox"/>	INPF 4R	PRESSURE TEST & LEAK TEST	0.29	7	6.00	45.10	51.10
<b>UNIT TOTAL</b>			<b>3.49</b>	<b>84</b>	<b>92.00</b>	<b>542.74</b>	<b>634.74</b>
<b>UNIT 5 PIPING DIAGRAMS</b>							
<input type="checkbox"/>	INPF 5A	INTRODUCTION TO BLUEPRINTS	0.08	2	3.00	12.44	15.44
<input type="checkbox"/>	INPF 5B	IDENTIFY PIPING SYMBOLS	0.08	2	3.00	12.44	15.44
<input type="checkbox"/>	INPF 5C	READ & INTER PIPING DIAGRAMS	0.17	4	3.00	26.44	29.44
<input type="checkbox"/>	INPF 5D	USING BLUEPRINTS FOR INSTALLA	0.25	6	3.00	38.88	41.88
<input type="checkbox"/>	INPF 5E	TROUBLESHOOT WITH BLUEPRINTS	0.17	4	3.00	26.44	29.44
<b>UNIT TOTAL</b>			<b>0.75</b>	<b>18</b>	<b>15.00</b>	<b>116.64</b>	<b>131.64</b>
<b>UNIT 6 THERMODYNAMICS AND HEATING THEORY</b>							
<input type="checkbox"/>	INPF 6A	TEMPERATURE	0.17	4	3.00	26.44	29.44
<input type="checkbox"/>	INPF 6B	HEAT	0.17	4	3.00	26.44	29.44
<input type="checkbox"/>	INPF 6C	EXPANSION	0.17	4	3.00	26.44	29.44
<input type="checkbox"/>	INPF 6D	MELTING, BOILING & EVAPORATION	0.25	6	4.00	38.88	42.88
<input type="checkbox"/>	INPF 6E	SENSIBLE HEAT & LATENT HEAT	0.25	6	3.00	38.88	41.88
<input type="checkbox"/>	INPF 6F	TRANSMISSION OF HEAT	0.17	4	4.00	26.44	30.44
<input type="checkbox"/>	INPF 6G	HEAT, WORK & EFFICIENCY	0.17	4	3.00	26.44	29.44
<input type="checkbox"/>	INPF 6H	HEAT SOURCES & COMBUSTION	0.33	8	4.00	51.32	55.32
<input type="checkbox"/>	INPF 6J	HEAT TRANSFER EQUIPMENT	0.33	8	3.00	51.32	54.32
<input type="checkbox"/>	INPF 6K	HYDRONICS	0.08	2	3.00	12.44	15.44
<b>UNIT TOTAL</b>			<b>2.09</b>	<b>50</b>	<b>33.00</b>	<b>325.04</b>	<b>358.04</b>
<b>UNIT 7 FLUID AND GAS PROPERTIES</b>							
<input type="checkbox"/>	INPF 7A	THE ATMOSPHERE	0.08	2	3.00	12.44	15.44
<input type="checkbox"/>	INPF 7B	GASES & THEIR EXPAN & COMPRES	0.17	4	3.00	26.44	29.44
<input type="checkbox"/>	INPF 7C	LIQUIDS & PRESSURE	0.17	4	3.00	26.44	29.44
<b>UNIT TOTAL</b>			<b>0.42</b>	<b>10</b>	<b>9.00</b>	<b>65.32</b>	<b>74.32</b>
<b>UNIT 8 INDUSTRIAL FLOW CONTROL</b>							
<input type="checkbox"/>	INPF 8A	BASIC PUMPS & TERMINOLOGY	0.17	4	3.00	26.44	29.44
<input type="checkbox"/>	INPF 8B	CENTRIFUGAL PUMPS	0.42	10	4.00	65.31	69.31
<input type="checkbox"/>	INPF 8C	POSITIVE DISPLACEMENT PUMPS	0.42	10	4.00	65.31	69.31
<input type="checkbox"/>	INPF 8D	CONTROL THEORY	0.33	8	3.00	51.32	54.32
<input type="checkbox"/>	INPF 8E	CONTROL VALVES	0.50	12	26.00	77.75	103.75
<input type="checkbox"/>	INPF 8F	REGULATORS	0.25	6	4.00	38.88	42.88

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<b>UNIT 8 INDUSTRIAL FLOW CONTROL (continued)</b>							
<input type="checkbox"/>	INPF 8G	PRESSURE REDUCING VALVES	0.25	6	4.00	38.88	42.88
<input type="checkbox"/>	INPF 8H	ELECTROMECHANICAL CONTROLS	0.25	6	4.00	38.88	42.88
<input type="checkbox"/>	INPF 8J	CONTROL AIR COMPRESSORS	0.25	6	4.00	38.88	42.88
<input type="checkbox"/>	INPF 8K	PNEUMATIC CONTROLS	0.67	16	3.00	104.19	107.19
<input type="checkbox"/>	INPF 8L	FLOW MEASUREMENT	0.29	7	3.00	45.10	48.10
<b>UNIT TOTAL</b>			<b>3.80</b>	<b>91</b>	<b>62.00</b>	<b>590.94</b>	<b>652.94</b>
<b>UNIT 9 BOILERS</b>							
<input type="checkbox"/>	INPF 9A	FUNDAMENTALS OF BOILERS	0.17	4	7.00	26.44	33.44
<input type="checkbox"/>	INPF 9B	HOT WATER BOILERS	0.42	10	7.00	65.31	72.31
<input type="checkbox"/>	INPF 9C	AIR TRAPS	0.08	2	7.00	12.44	19.44
<input type="checkbox"/>	INPF 9D	LOW PRESSURE STEAM BOILERS	0.29	7	7.00	45.10	52.10
<input type="checkbox"/>	INPF 9E	HIGH PRESSURE STEAM BOILERS	0.54	13	7.00	83.97	90.97
<input type="checkbox"/>	INPF 9F	BOILER CONTROLS	0.25	6	7.00	38.88	45.88
<input type="checkbox"/>	INPF 9G	BOILER SAFETIES	0.08	2	7.00	12.44	19.44
<input type="checkbox"/>	INPF 9H	BOILER VALVES	0.17	4	7.00	26.44	33.44
<input type="checkbox"/>	INPF 9J	BOILER BLOWDOWN	0.08	2	7.00	12.44	19.44
<input type="checkbox"/>	INPF 9K	CONDENSATE RETURN	0.50	12	7.00	77.75	84.75
<input type="checkbox"/>	INPF 9L	BOIL FEED WATER & MAK UP WATER	0.25	6	6.00	38.88	44.88
<input type="checkbox"/>	INPF 9M	TROUBLESHOOTING BOILERS	0.25	6	6.00	38.88	44.88
<input type="checkbox"/>	INPF 9N	BOILER PREVEN MAINTEN & INSPEC	0.25	6	5.00	38.88	43.88
<b>UNIT TOTAL</b>			<b>3.33</b>	<b>80</b>	<b>87.00</b>	<b>517.85</b>	<b>604.85</b>
<b>UNIT 10 STEAM</b>							
<input type="checkbox"/>	INPF 10A	STEAM SAFETY	0.13	3	3.00	20.22	23.22
<input type="checkbox"/>	INPF 10B	FUNDAMENTALS OF STEAM	0.25	6	3.00	38.88	41.88
<input type="checkbox"/>	INPF 10C	STEAM TRAPS	0.67	16	4.00	104.19	108.19
<input type="checkbox"/>	INPF 10D	WATER HAMMER	0.08	2	5.00	12.44	17.44
<input type="checkbox"/>	INPF 10E	STEAM COILS & RADIATORS	0.33	8	4.00	51.32	55.32
<input type="checkbox"/>	INPF 10F	VACUUM BREAKERS	0.17	4	3.00	26.44	29.44
<input type="checkbox"/>	INPF 10G	STEAM BUNDLES	0.42	10	4.00	65.31	69.31
<b>UNIT TOTAL</b>			<b>2.05</b>	<b>49</b>	<b>26.00</b>	<b>318.80</b>	<b>344.80</b>
<b>UNIT 11 PIPING APPLICATIONS</b>							
<input type="checkbox"/>	INPF 11A	PIPING & VENT COMMER GAS SYS	0.08	2	3.00	12.44	15.44
<input type="checkbox"/>	INPF 11B	INSTALLING WATER HEATERS	0.17	4	3.00	26.44	29.44
<input type="checkbox"/>	INPF 11C	INSTALL COMP AIR PIPING SYS	0.08	2	3.00	12.44	15.44
<b>UNIT TOTAL</b>			<b>0.33</b>	<b>8</b>	<b>9.00</b>	<b>51.32</b>	<b>60.32</b>

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<b>UNIT 12 SPECIAL PIPING APPLICATIONS</b>							
<input type="checkbox"/>	INPF 12A	VICTUALIC	0.33	8	17.00	51.32	68.32
<input type="checkbox"/>	INPF 12B	FRP	0.08	2	31.00	12.44	43.44
<input type="checkbox"/>	INPF 12C	GREENTHREAD	0.08	2	3.00	12.44	15.44
<input type="checkbox"/>	INPF 12D	CPVC	0.08	2	18.00	12.44	30.44
<b>UNIT TOTAL</b>			<b>0.57</b>	<b>14</b>	<b>69.00</b>	<b>88.64</b>	<b>157.64</b>
<b>UNIT 13 PIPING SYSTEM MAINTENANCE</b>							
<input type="checkbox"/>	INPF 13A	PIPING SYSTEM MAINTENANCE I	0.25	6	3.00	38.88	41.88
<input type="checkbox"/>	INPF 13B	PIPING SYSTEM MAINTENANCE II	0.25	6	8.00	38.88	46.88
<input type="checkbox"/>	INPF 13C	PIPING SYSTEM MAINTENANCE III	0.25	6	8.00	38.88	46.88
<b>UNIT TOTAL</b>			<b>0.75</b>	<b>18</b>	<b>19.00</b>	<b>116.64</b>	<b>135.64</b>
<b>PROGRAM TOTAL</b>			<b>26.47</b>	<b>635</b>	<b>730.00</b>	<b>4116.43</b>	<b>4846.43</b>

### FOR OFFICE USE ONLY

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

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