**SUMMARY OF UNITS OF COMPENTENCY**

**INDUSTRIAL AUTOMATION AND ROBOTICS LEVEL 5**

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| **MODULE** | **UNITS** | | | |
| **UNIT**  **CATEGORY** | **UNIT CODE** | **UNIT NAME** | **DURATION(Hours)** |
| **ONE (I)** | CORE | 0714 351 06A | Industrial Automation and Robotic Systems Operations | 250 |
| CORE | 0714 351 08A | Product Quality Maintenance | 140 |
| **SUB TOTAL** | | | **390** |
| **TWO (II)** | **CORE** | 0714 351 07A | Industrial Automation and Robotic Systems Maintenance | 220 |
| **SUB TOTAL** | | | **220** |
| **THREE(III)** | **BASIC** | 0611 441 01A | Digital Literacy | 40 |
| **COMMON** | 0541 441 05A | Engineering mathematics | 150 |
| **CORE** | 0714 451 09A | Industrial automation electrical systems installation and maintenance | 170 |
| **SUB TOTAL** | | | **360** |
| **FOUR(IV)** | **CORE** | 0714 451 10A | Stand-alone controlled systems installation and maintenance. | 200 |
| **CORE** | 0714 451 11A | Pneumatic System Installation and Maintenance | 220 |
| **SUB TOTAL** | | | **420** |
| **FIVE(V)** | **BASIC** | 0031 441 02A | Communication Skills | 40 |
| **BASIC** | 0413 441 04A | Entrepreneurial Skills | 40 |
| **BASIC** | 0417 441 03A | Work Ethics and Practices | 40 |
| **CORE** | 0714 451 12A | Hydraulic systems installation and maintenance. | 220 |
|  | **SUB TOTAL** | | | **340** |
|  |  |  | **INDUSTRIAL ATTACHEMENT** | 480 |
|  |  |  |  | **Grand Total:**  **2210HRS** |

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| **MODULE ONE** | | | | | | |
| **UNIT CODE** | | **UNIT NAME** | **ELEMENTS** | | | **DURATION (HOURS)** |
| 0714 351 01A | | Industrial Automation and Robotic Systems Operation I | Operate computer devices | | | **30** |
| Apply digital electronic principles | | | **30** |
| Control industrial automation and robotic system | | | **80** |
| Monitor industrial automation and robotic system robotic system parameters | | | **90** |
| Set industrial automation and robotic system parameters | | | **70** |
|  | | | **TOTAL 300 HRS** |
| 0714 351 03A | | Product Quality Maintenance I | Conduct product quality checks | | | **40** |
| Document production quality activities | | | **40** |
| Adjust industrial automation and robotics machinery settings | | | **150** |
|  | |  |  | | | **TOTAL 230 HRS** |
| **MODULE TWO** | | | | | | |
| 0714 351 02A | | Industrial Automation and Robotic Systems Maintenance I | Apply workshop safety | | | **40** |
| Perform housekeeping | | | 30 |
| Carry out industrial automation and robotic system troubleshooting | | | 130 |
| Replace industrial automation and robotic system parts | | | 110 |
|  | | | **TOTAL 310 HRS** |
| **MODULE THREE** | | | | | | |
| 0611 541 01A | Digital Literacy | | | Solve Tasks Using Office Suite | **10** | |
| Manage Data and Information | **10** | |
| Perform Online Communication and Collaborations | **10** | |
| Apply Cybersecurity Skills | **10** | |
| Perform Online Jobs | **10** | |
| Apply job entry techniques. | **10** | |
|  |  | | |  | **TOTAL 60 HRS** | |
| 0541 441 06A | Apply engineering mathematics | | | Apply algebra | **20** | |
| Apply trigonometric functions | **30** | |
| Apply coordinate geometry | **20** | |
| Carry out mensuration | **10** | |
| Apply statistics | **30** | |
| Apply vector theorem | **20** | |
| Apply matrices | **20** | |
|  |  | | |  | **TOTAL 150 HRS** | |
| 0714 551 11A | Industrial automation electrical systems installation and maintenance | | | Conduct industrial automation electrical system site survey. | **30** | |
| Plan industrial automation electrical system installation | **50** | |
| Install industrial automation electrical system | **50** | |
| Maintain industrial automation electrical system | **40** | |
|  |  | | |  | **TOTAL 170 HRS** | |
| **MODULE FOUR** | | | | | | |
| 0714 551 13A | Standalone control systems installation and maintenance | | | Conduct stand-alone control system site survey | **30** | |
| Plan stand-alone control system installation | **50** | |
| Install stand-alone control systems | **70** | |
| Maintain stand-alone control systems | **50** | |
|  |  | | |  | **TOTAL 200 HRS** | |
| 0714 551 16A | Pneumatic system installation and maintenance | | | Apply knowledge of perfect gases | **10** | |
| Operate air compressors | **10** | |
| Conduct pneumatic system site survey | **30** | |
| Plan pneumatic system installation | **50** | |
| Install pneumatic systems | **70** | |
| Maintain pneumatic systems | **50** | |
|  |  | | |  | **TOTAL 220 HRS** | |
| **MODULE FIVE (V)** | | | | | | |
| 0031 441 02A | Communication Skills | | | Apply communication channels. | **10** | |
| Apply written communication skills. | **10** | |
| Apply non-verbal skills. | **5** | |
| Apply oral communication skills. | **5** | |
| Apply group communication skills. | **10** | |
|  | **TOTAL 40 HRS** | |
| 0417 541 03A | Work Ethics and Practices | | | Apply self-management skills | **5** | |
| Promote ethical practices and values | **10** | |
| Promote Teamwork | **10** | |
| Maintain professional and personal development | **10** | |
| Apply Problem-solving skills | **10** | |
| Promote Customer care. | **5** | |
| **TOTAL HOURS** | **50** | |
| 0413 541 04A | Entrepreneurial Skills | | | Apply financial literacy | **10** | |
| Apply the entrepreneurial concept | **10** | |
| Identify entrepreneurship opportunities | **10** | |
| Apply business legal aspects | **10** | |
| Innovate Business Strategies | **10** | |
| Develop business plan | **10** | |
| **TOTAL HOURS** | **60** | |
| 0714 551 17A | Hydraulic systems installation and maintenance | | | Apply heat transfer and heat exchangers in fluid | **10** | |
| Apply knowledge of flow of fluids | **10** | |
| Apply knowledge of viscous flow of fluids | **10** | |
| Operate fluid pumps | **10** | |
| Conduct hydraulic system site survey | **30** | |
| Plan hydraulic system installation | **30** | |
| Install hydraulic system | **70** | |
| Maintain hydraulic system | **50** | |
|  | **TOTAL 220 HRS** | |
|  |  | | | **INDUSTRIAL ATTACHEMENT** | **480** | |
| **GRAND TOTAL HOURS** | | | | | **2490 HOURS** | |