

Hofmann Engineering: Glossaries

Ethan - Apprentice Metal Fabricator

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| Apprenticeship | An entry level job that offers an individual on-the-job training whilst completing a formal nationally recognised qualification. Apprentices are paid at a lower wage than a qualified tradesperson whilst they learn and develop the required skills for the trade through on-the-job and course of study (e.g. at TAFE). An apprenticeship can go from one to four years depending on the trade. An apprenticeship in engineering is four years. |
| Automotive shop | A place where cars are repaired. |
| Centre bay | The isle or 'bay' down the middle of the workshop. |
| Certificate 3 | A TAFE certificate to qualify a person to do skilled work. |
| Engineer | An engineer is a person who designs and builds complex products, machines, systems, or structures. |
| Heavy 'fab' work | Large scale metal work. |
| Machining | Machining is a process in which a material is cut to a desired final shape and size by a controlled material-removal process. |
| Maintenance | The process of preserving the condition of something. In a factory or workshop this usually means making sure all the equipment stays in good working condition. |
| Metal fabrication engineering | Metal fabrication is the process of building machines and structures from raw metal materials. The process includes cutting, burning, welding, machining, forming, and assembly to create the final product. |
| Production line | In a factory, a production line is a series of areas where a product is worked on and then passed down the line to the next area from beginning to end until the product has finished being made. |
| Pythagoras theorem | A mathematical theorem involving geometry to help measure triangles. |
| Shot blast | The process of attacking a surface with shots (which can be such as sand, or small metal balls.) This is usually done to remove something. |
| Welding | Welding is a fabrication process that joins materials, usually metals or thermoplastics, by using high heat to melt the parts together and allowing them to cool, causing fusion. |
| Work ethic | The belief that it is important to work hard. |
| Work experience | A short unpaid period of time a student spends in a workplace to gain an experience of a working environment. |

Ethan - Workplace Tour

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| Bed | The base (bottom) of the machine. |
| Checked | Looked at to make sure that it is of high quality (often referred to as 'quality checked'). |
| Conformance | Making sure something 'conforms' to requirements, or is made the correct way. |
| CRRC - (CRRC Changchun Australia Rail Pty. Ltd.) | CRRC is the company Hofmann Engineering and manufacturing products for which are being installed on the new Melbourne High Capacity Metro Trains (HCMT) currently being built for the state. |
| Dragline | A large bucket excavator controlled by a system of pulleys and chains that hoist a bucket. A large piece of equipment used in surface mining. |
| Engineer | An engineer is a person who designs and builds complex products, machines, systems, or structures. |
| Fabrication (or 'Fab') | The action or process of manufacturing or inventing something. For example, steel fabrication is the production of metal structures using a range of processes such as cutting, bending and assembling. Metal fabrication will often form a complete assembly made from smaller sub-assemblies for use with readily available standard sections. |
| Fabrication Bay | The area within the workshop in which fabrication tasks are completed. |
| Grinding | When metal has been welded, it doesn't sit flat, grinding is a way of ensuring that the welds are tidy. Grinding can also be used to prepare metal for being worked on, or for polishing. |
| Gunship barrels | The long hollow parts of a gun. |
| Hydro | An industry known as Hydro-power or Hydro energy, is the use of falling or fast-running water to produce electricity or to power machines. Hofmann Manufacture components for this industry. |
| IGM Robot | An Austrian brand of robots that automatically welds. |
| Machine shop supervisor | The supervisor of the machining department. |
| MIG (Metal Inert Gas) Welding | Welding with the use of a continuous solid wire being heated and fed into the weld area. |
| Production Line | In a factory, a production line is a series of areas where a product is worked on and then passed down the line to the next area from beginning to end until the product has finished being made. |
| Programmer | The person in charge of developing and preparing a program that gives instructions to a machine or robot to tell it what to do. |
| Propulsion shaft | A shaft that carries a screw propeller at its end and transmits power from engine to propeller. |
| Shaft | A long narrow tube like shaft that connects a turbine to a generator, turning at the same speed as the turbine. |
| Side frames | A particular sub-assembly of a product Hofmann are manufacturing. |
| Specialist | A person who works on one thing and can often be an expert at their job (e.g. in a hairdresser some people are a specialist in cutting, which means that they don't colour hair, but instead just focus on being an expert cutter). |
| Sub (submerged) Arc Welding | Welding underneath a 'submerged' blanket of compound material (e.g. lime, silica, manganese etc.) |
| Tacked | Fixed in place. |



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| Tonne | Weight measuring 1,000 kilograms. |
| VDF Lathe | Large size machine where long piece of metal spins and is cut into from the side. |
| Vertical boring machine | Large machine used for cutting metal from the top. |
| Weld Preps | Areas on the metal that are prepared for welding grinding clean. |
| Weld Tester | The person who is responsible for testing the welded areas to make sure all of the welds are strong and will hold together. |
| Welding | Welding is a fabrication process that joins materials, usually metals or thermoplastics, by using high heat to melt the parts together and allowing them to cool, causing fusion. |

Melanie - Boilermaker

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| Apprenticeship | An entry level job that offers an individual on-the-job training whilst completing a formal nationally recognised qualification. Apprentices are paid at a lower wage than a qualified tradesperson whilst they learn and develop the required skill set for the trade through on-the-job and course of study (e.g. at TAFE). An apprenticeship can go from one to four years depending on the trade. An apprenticeship in engineering is four years. |
| 'Attention to detail' | The ability to complete all areas of work with a high quality no matter how big or small the task. |
| Challenge | Something that needs physical or mental effort to overcome. |
| Geometry | An area of mathematics that deals with measurement, lines, angles, and space. |
| Industry | A group of businesses that make or sell similar products. |
| 'Keep an eye in' | Practicing something you don't do often so as to not lose skill. |
| RPL (Recognition of Prior Learning) | Recognition of Prior Learning allows someone to be accepted into a course of study or place of work through an understanding that they have gained experience and knowledge from work they have done before this study/job. RPL can in some cases reduce the length of your course of study time (i.e. TAFE). |
| 'Teachers-pet' | Someone who becomes close to the teacher (often by showing interest in what is being taught). |
| Tedious | A task that is slow, boring, repetitious and/or takes a long time. |
| Welder | A welder is a skilled tradesperson who joins metal together or fills and repairs holes on metal constructions through a tool that generates intense heat. A welder can also polish and smooth out metal surfaces they weld together. |
| Welding | Welding is a fabrication process that joins materials, usually metals or thermoplastics, by using high heat to melt the parts together and allowing them to cool, causing fusion. |
| 'Work-life-balance' | Making sure that you have time in your life to work and also have time to spend on hobbies, health, family and friends. |
| 'World of work' | Anything to do with working, including jobs, employers, pay, promotions, industries etc. |



Martin - Mechanic

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| CAD work | CAD = Computer-Aided Design. CAD work is the use of computers to create designs. |
| Design engineer | A design engineer takes a creative idea and makes it into something that can be made and used. |
| Fabrication | The action or process of manufacturing or inventing something. E.g. steel fabrication is the production of metal structures through processes such as cutting, bending and assembling. |
| 'Fitter and machinist' | Someone who puts together metal parts to make the final product. |
| Gearboxing | Normally a Trade qualified Fitter Machinist specialising in Fitting opposed to machining. In this case they specialise in the repair/replacement of worn or damaged parts and components from large industrial gearboxes. |
| Industry | Industry - a group of businesses that make or sell similar products. |
| NCR (Non Conformance Report) process | Non conformance is where there has been a change from the project specification or where work fails to meet agreed quality standards. The NCR process is the process of finding out what exactly went wrong, and finding out how to fix the issue and make sure it doesn't happen again. |
| Output | The amount of finished work someone does. |
| Praise | Telling someone they've done a good job. |
| Product Manager | The person who specialises in a certain product and oversees the project managers who are managing a project. Product Managers are often the higher level technical expert. |
| Project Manager | The person who is in charge of planning and managing a project from start to finish. They make sure everything runs smoothly and the job is completed on time. They are the main contact for the customer and provide updates throughout the project. |
| Reward | Getting something valuable (e.g. money or a good feeling). |
| TAFE | (Technical and Further Education) An education institution that offers hands on study after high school that can be done by itself or as a part of an apprenticeship. |
| 'The floor' | The shop floor workspace in the factory. |



Virginia - Office Manager

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| Admin | (Administration) The work involved with managing the day-to-day paperwork (often computer based work including emails, writing documents, financial work etc.) |
| 'Attention to detail' | Attention to Detail is the ability to complete a task while demonstrating a care for all the areas involved, no matter how small. |
| 'Career path' | The different jobs that someone does during their career. |
| 'Careers team' | The people involved in helping students figure out what work they are interested in doing and establishing the steps to get there. |
| Cert 3 Business Admin | A 12 month course of study where students learn and develop the knowledge and skills to effectively provide professional office support by way of organisation, computer skills, document and report writing and communication skills. |
| Communication | Exchanging information by speaking, writing, or through the body. |
| Concise | Giving a lot of information clearly in only a few words. |
| 'Day-to-day' | Happening regularly every day. |
| Food technology | A subject at school involving health, hygiene, nutrition, and food science as well as food preparation. |
| Hospitality | Working in businesses that entertain people, examples include in restaurants and music venues. To be hospitable is to be friendly and welcoming, so people working in hospitality are generally expected to be friendly to others and like working with people. |
| HR (Human Resources) | The department in an organisation that are in charge of finding workers, managing people, paying people etc. |
| Office manager | A person who is in charge of all the day-to-day running of an office, including organising people (timetables, tasks etc.) and equipment (computers, desks, stationary etc.) |
| Oversee | Supervise someone or something (watch over to make sure that everything is being done correctly.) |
| Payroll | The task of paying staff for their work. |
| Purchasing | The task of buying things that the business needs. |
| Safety officer | The person who makes sure that everyone knows what they need to do to work safely (and that they do it). This person is often in charge of making sure people evacuate if there is a fire or emergency. |
| Scheduler | The person creates and manages the shop floor schedule to make sure that all job tasks are on track and will be completed on time, factoring in machine breakdowns and other delays and rescheduling/ re-assigning tasks. |
| 'See things from start to finish' | Work on something to the beginning until the end. |
| Sound | Good. |
| Split-shifts | Working two times in one day with a break in the middle. E.g. in a café, someone might work from 10am -2pm, and then again from 6pm-10pm. |
| Structure | The arrangement of the parts of something. |
| Tasks | Pieces of work. |
| Temporarily | For a short time only. |
| Thorough | Done with care to make sure that it is done well. |
| Took pointers | Took advice from people. |
| Verbal | Spoken. |
| Waitress | A person who serves food in a café or restaurant. |