# Generic engineering/manufacturing risk assessment example

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# (provided courtesy of Rolls-Royce)

The table below captures generic risks that may apply to work experience in an engineering office environment and/or an engineering manufacturing environment, together with example control measures. Risk levels have been omitted, as they would need to be assessed on an individual environment basis, but the generic risks and controls may prove a useful *starting point* for your own assessment. Risks have been listed alphabetically.

| **Hazard**(potential for harm) | **Hazardous event**(what happens) | **Foreseeable cause**(cause of hazardous event) | **Consequence** (outcome)**Details of harm** | **Existing control measures used** |
| --- | --- | --- | --- | --- |
| **Airborne dust and fumes** | Exposure to airborne dust and fumes | Unfamiliarity of COSHH requirements and associated risk assessments. Child in unsuitable working environment. Lack of care / awareness. No or inadequate PPE. Lack of supervision. | Major injury | Local exhaust ventilation and general ventilation; assess suitability for young person with certain allergic conditions; provision of Personal Protective Equipment (PPE). |
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| **Children in working environment** | Child abuse/bullying | Child being unsupervised or supervised by unapproved person | Stress, psychological problems. Damage to company and school’s reputation | All children under the age of 16 years receive close supervision at all times by approved person. |
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| **Electrical**  | Incorrect use of machinery/equipment | Unfamiliarity with working practices / inexperience or lack of supervision | Major injury | Hired wiring cables, electrical equipment are PAT tested and any defective equipment reported and use discontinued. |
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| **Entanglement** | Trapping hand in shredder, photocopier | Removing paper jam | Lost time injury | All children under 16 years of age receive close supervision at all times by approved person. Dangers highlighted to student at induction. |
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| **Falling objects** | Files or stationary falling from the top of cupboards or shelves | Overloading of shelves or the storing of heavy articles on the top of cupboards | Lost time injury | Employees are aware not to overload shelves or use the top of cupboards for heavy loads. |
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| **Fire within the building** | Entrapment in building during fire | Unaware of the correct fire action / unauthorised use of oxy fuel equipment | Major injury | Induction of first day to cover fire action, Young person not to be left unaccompanied at any time. |
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| **Hot equipment, materials & liquids** | Handling equipment or drinks | Child being unsupervised  | Burns, scolds | All children under 16 years receive close supervision at all times by approved person. Dangerous areas identified. Provision of PPE, e.g. heat insulated gloves or material to be used where practicable.Company LogoDelete this image and replace with your logo |
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| **Lighting** | Eye strain, headaches  | Lights too bright | Eye strain | Assessment in place |
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| **Manual Handling Operations** | Handling or moving loads by hand | Limited lifting capacity and experience of young person | Minor Injury/lost time injury | Supervisor briefed that young person is not to conduct or permit manual handling activity. |
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| **Moving vehicles / traffic in buildings and around site** | Hit by moving vehicles | Child unaware of moving vehicles | Major injury | Trained drivers of industrial vehicles, speed limit on site, young person not to move around site unaccompanied. Visible and audible warnings, danger areas identified and designated walkways. |
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| **Posture** | Poor posture while working at desk | Poor ergonomics - Lack of training in DSE, poor seating, poor office arrangements  | Musculoskeletal problems, lost time injury | Employees have DSE awareness, adequate arrangements (seating, desk), short breaks to stretch and exercise. |
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| **Manual Handling**  | Lifting boxes of paper or files | Limited lifting capacity and experience of young person and poor technique | Minor injury/lost time injury | Supervisor briefed that young person is not to conduct or permit manual handling activity. |
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| **Noise** | Possible exposure to high noise levels | Noise created by work operations | Major injury | Hearing Protection Devices provided and worn wherever necessary. Visible warning signs. |
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| **Susceptible child (illness)** | Asthma attack, epileptic fit / seizure, fainting, diabetes | Existing medical condition | Fatality | Student's parent and/or school to advise of existing medical condition. Student to ensure required medication to hand. Emergency first aid provided. |
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| **Thermal comfort** | Temperature variation | Lack of / inadequate air management i.e. temperature too low or high | Illness/minor injury | Air control systems checked |
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| **Travelling as a passenger in a vehicle** | Injury due to road traffic accident | Poor weather conditions. Speeding. Lack of due care & attention. Inadequate / invalid / poorly maintained vehicle. Failure to wear seat belt / driver not qualified | Major injury | Business Travel Policy in place. Approved method of transport, e.g. company intersite bus, recommended. Drivers of vans under defined controls, speed limit on site. |
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| **Travelling as a passenger in a vehicle** | Child abuse / bullying | Child being unsupervised | Major injury | Young person not to leave site in vehicle unless previously agreed with School and/or parent, and more than one adult accompanying student. Approved method of transport, e.g. Company intersite bus, recommended. Business Travel Policy in place. |
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| **Use of cranes and lifting equipment** | Incorrect use of lifting equipment | Lack of awareness of supervisor that young person is not to operate lifting equipment / cranes | Major injury | Supervisor to be instructed not to allow young persons to operate lifting equipment. |
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| **Use of general office / IT equipment** | Incorrect use of machinery / equipment | Unfamiliarity with working practices / inexperience or lack of supervision | Minor injury / lost time injury | Regular inspection; regular breaks and equipment PAT tested. |
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| **Use of hand tools** | Mishandling, dropping or being hit by tools during use | Unfamiliarity with working practices / inexperience | First Aid injury | PPE to be provided at induction on 1st day and worn during tasks. Young person must be supervised at all times and competence assessed.  |
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| **Use of work equipment - machinery** | Incorrect use of machinery / equipment | Unfamiliarity with working practices / inexperience or lack of supervision | Major injury | Children under the age of 16 are prohibited from operating machinery / equipment. Information, instruction and close supervision required. |
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| **Using or working on electrical equipment**  | Incorrect use of machinery / equipment | Unfamiliarity with working practices / inexperience or lack of supervision | Major injury | Regular inspection; equipment PAT tested; use of RCD's as appropriate (circuit breaker); young person to be given full training and be deemed competent to use it; dangers of using electrical equipment in wet conditions explained; young person will not work on live circuits or apparatus; use of 110-volt equipment on site; provision of Personal Protective Equipment. |
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| **Vibration** | Exposure to Vibration | Using hand held equipment | Hand Arm Vibration White Finger | Children under the age of 16 are prohibited from using hand held equipment. Information, instruction and close supervision required. |
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| **Working at height** | Climbing ladders or equipment | Poor guard rails on some structures / unfamiliarity / failure to comply with working at height regulations | Major injury | Supervisor to be instructed not to allow young person to work on or climb on any unguarded structures. Can only go on guarded structures. |
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| **Working below unprotected areas** | Falling objects, sharp protrusions at head height | Items dropped / fall from working area above, contact with head / sharp protrusions | Major injury | Personal Protection Equipment (PPE) - Bump cap to be provided and worn at all times in such areas. |
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| **Working time and breaks** | Student working unacceptable hours and not taking regular rest / refreshment breaks | Company / local authority unaware of legalities. Parents accommodating child with unreasonable shift pattern to suit personal requirements. It is foreseeable that a young person may not be used to working a long working day. | Exhaustion / fatigue | Children under the age of 16 are prohibited from working in excess of 8 hours per day and between 7pm and 7am. Placement can be arranged in conjunction with parent's shift pattern outside these hours, ensuring business area approve and school is informed. The supervisor needs to ensure the young person takes regular rest / refreshment breaks and the young person is encouraged to take their lunch breaks. |
| **Working with power tools** | Mishandling, dropping or losing control of power tools | Lack of Supervisor's knowledge that young person is not to operate power tools | Major injury | Supervisor to be instructed not to allow young persons to operate power tools. |
| **Working within areas with X-Ray equipment** | Exposure to radiation | Lack of supervisor's or student's knowledge that the young person is not to enter areas when X-Ray equipment is in use. | Major injury | Children under the age of 18 are prohibited from entering areas where X-Ray equipment is in use. Information, instruction and close supervision required. |
| **Young person on work experience within the Department - unfamiliar with the environment** | Working away from specified area and/or errands away from base - unaccompanied movement around site | Lack of awareness of supervisor that young person is not to work away from specified area | Major injury | Supervisor to be instructed not to allow young person to work away from specified area/move around site unaccompanied (including to or from place of work to gatehouse). |
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| **Young person unfamiliar with the environment** | Slips, trips and falls | Trailing leads, spillages, stairs, steps, poor housekeeping | Minor injury/lost time injury | Work place inspections, adequate lighting, defined walkways, suitable footwear worn, inform young person of danger areas, close supervision. |