

# Syllabus

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	Learning outcome	Element summary	Recommended tuition hours	Assessment
<b>1</b>	Understand why incident investigations are carried out and how human and organisational factors contribute to incidents	<b>1.1</b> Incident terminology, the moral, legal and financial arguments for investigations and management system requirements	7	Application of knowledge by analysis of a theoretical incident investigation
		<b>1.2</b> Human and organisational factors		
<b>2</b>	Understand how to investigate incidents and confidently carry out an investigation	<b>1.3</b> Investigating incidents		
		<b>1.4</b> Positive strategies for and the barriers to successful interviews		
		<b>1.5</b> Advanced incident investigation techniques		

Teaching and assessment hours	7
Pre-course reading	3
<b>Notional learning hours</b>	<b>10</b>

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<p>Understand why incident investigations are carried out and how human and organisational factors contribute to incidents</p>	<p><b>1.1 Moral, legal and financial arguments for investigations</b></p> <ul style="list-style-type: none"> <li>• Definitions: accident, incident, near miss, dangerous occurrence, immediate cause, underlying cause, root cause with reference to HSG245 and ISO 45001</li> <li>• How near misses and incident data can relate to major injuries (reference to Bird’s Triangle)</li> <li>• Examples of minor and major injury, dangerous occurrences and near misses</li> <li>• Moral, legal and financial arguments for investigating incidents (including the challenges of near-miss reporting)</li> <li>• Management system requirements (ISO 45001):               <ul style="list-style-type: none"> <li>&gt; an incident is also a non-conformity</li> <li>&gt; procedures for incident reporting</li> <li>&gt; concept of leading and lagging indicators</li> </ul> </li> <li>• Co-operation with regulators and other enforcement agencies</li> <li>• The role of insurers.</li> </ul>	<p>Understand incident terminology, the moral, legal and financial arguments for investigations and management system requirements.</p>
	<p><b>1.2 Human and organisational factors</b></p> <ul style="list-style-type: none"> <li>• Factors that can contribute towards accidents and incidents:               <ul style="list-style-type: none"> <li>&gt; organisational factors (workplace design, time pressures, goal conflicts)</li> <li>&gt; human factors (competence, capability, morale)</li> </ul> </li> <li>• Causes of human failure (conscious and unconscious actions).</li> </ul>	<p>Recognise how human and organisational factors can contribute to an incident.</p>

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<p>Understand how to investigate incidents and confidently carry out an investigation</p>	<p><b>1.3 Investigating accidents and incidents</b></p> <ul style="list-style-type: none"> <li>• What a good investigation looks like (proportionality, finding the immediate, underlying and root cause(s), identifying additional control measures)</li> <li>• Levels of investigations: minimal, low, medium and high</li> <li>• How lessons learned from investigations can be used in the future</li> <li>• Accident investigation teams (who should be involved and competencies required)</li> <li>• Pre-investigation actions following an accident:               <ul style="list-style-type: none"> <li>&gt; emergency response (first aid, making the scene safe)</li> <li>&gt; initial response to consider: preservation of the scene, the names of those involved for witness statements, equipment in use, recording environmental conditions, concept of leading and lagging indicators</li> </ul> </li> <li>• The accident/incident investigation process:               <ul style="list-style-type: none"> <li>&gt; gathering information:                   <ul style="list-style-type: none"> <li>- physical – from the scene of the accident, eg, plant and equipment, including photographs, CCTV footage, plan of the area</li> <li>- verbal – witness statements</li> <li>- written – risk assessments, policies, procedures, training records, etc</li> </ul> </li> </ul> </li> </ul>	<p>Outline the process for investigating accidents and incidents.</p>

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<p>Understand how to investigate incidents and confidently carry out an investigation</p>	<p><b>1.3</b></p> <ul style="list-style-type: none"> <li>&gt; analysis:               <ul style="list-style-type: none"> <li>- exploring all reasonable lines of enquiry in a timely and structured way, setting out what is known/unknown</li> <li>- objective/unbiased/evidence based</li> <li>- identifying sequence of events and adverse conditions leading to the event</li> <li>- identifying immediate, underlying and root causes (use of 5 Whys technique)</li> <li>- common themes from interviews</li> <li>- recording all findings/organisation of findings/use of organisational tools and/or procedures to drive the analysis (all findings may not have an action/recommendation)</li> <li>- concept of barrier controls</li> </ul> </li> <li>&gt; risk control:               <ul style="list-style-type: none"> <li>- identifying missing/inadequate/unused controls</li> <li>- complying with legislation/other standards</li> <li>- additional control measures (application of hierarchy of control)</li> <li>- realistic recommendations based on the outcomes of the investigation</li> </ul> </li> </ul>	<p>Outline the process for investigating accidents and incidents.</p>

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<p>Understand how to investigate incidents and confidently carry out an investigation</p>	<p><b>1.3</b></p> <ul style="list-style-type: none"> <li>&gt; action plan:               <ul style="list-style-type: none"> <li>- consideration of human performance</li> <li>- deals with immediate, underlying and root causes</li> <li>- lessons learned and communicated (eg, outcomes discussed with relevant stakeholders)</li> <li>- gives feedback to all parties involved</li> <li>- includes risk assessment review</li> <li>- arrangements to implement SMART objectives</li> <li>- looks at tracking and closing of actions</li> </ul> </li> <li>• Post investigation – releasing the scene back to the operational unit (if applicable).</li> </ul>	<p>Outline the process for investigating accidents and incidents.</p>
	<p><b>1.4 Positive strategies and the barriers to successful interviews</b></p> <ul style="list-style-type: none"> <li>• Reasons for carrying out prompt interviews following an accident/incident</li> <li>• Use of the PEACE model for interviewing:               <ul style="list-style-type: none"> <li>&gt; Planning and preparation:                   <ul style="list-style-type: none"> <li>- practical issues (location of interview selected to avoid interruptions; time of interview; how the interview is to be conducted – benefits and limitations of on-site interviews; use of checklists)</li> <li>- use of timelines to plot the events</li> <li>- points to be discussed (set aims and objectives of interview)</li> </ul> </li> </ul> </li> </ul>	<p>Outline positive strategies that can be adopted for interviews following accidents or incidents and the barriers to successful interview outcomes.</p>

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<p>Understand how to investigate incidents and confidently carry out an investigation</p>	<p><b>1.4</b></p> <ul style="list-style-type: none"> <li>- interview one person at a time</li> <li>- use one interviewer with one scribe at a time</li> </ul> <p>&gt; Engage and explain:</p> <ul style="list-style-type: none"> <li>- assess any needs of the interviewee; explain the purpose of the interview (aims and objectives)</li> <li>- engage the interviewee in conversation (establish and maintain rapport)</li> <li>- use of 'active listening' skills (including the use of drawings, plans, etc)</li> <li>- language used is appropriate and understood</li> <li>- when to use 'closed' questions (eg for confirmation of specific points, such as "Was the machine started at 10.10am?") and prevention of leading questions</li> </ul> <p>&gt; Account, clarification and challenge:</p> <ul style="list-style-type: none"> <li>- consider the topic areas to be explored</li> <li>- summarise answers using interviewee's own words</li> <li>- challenge any inconsistencies or contradictions</li> <li>- clarify inconsistencies between other evidence and the interviewee's account</li> </ul>	<p>Outline positive strategies that can be adopted for interviews following accidents or incidents and the barriers to successful interview outcomes.</p>

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<p>Understand how to investigate incidents and confidently carry out an investigation</p>	<p><b>1.4</b></p> <ul style="list-style-type: none"> <li>&gt; Closure:               <ul style="list-style-type: none"> <li>- summarise the interview findings to ensure there has been a mutual understanding</li> <li>- ensure that all areas have been covered</li> <li>- explain the next steps to the interviewee</li> <li>- contact details of interviewee gained so they can be contacted again if required</li> </ul> </li> <li>&gt; Evaluation:               <ul style="list-style-type: none"> <li>- were the aims and objectives achieved?</li> <li>- evaluate the information received</li> <li>- re-evaluate all evidence obtained</li> <li>- evaluate own performance as interviewer (what went wrong and what could have been done better?)</li> </ul> </li> <li>• Barriers to good interviews:               <ul style="list-style-type: none"> <li>&gt; language barrier</li> <li>&gt; leading questions</li> <li>&gt; poor communication skills on the part of the interviewer/interviewee</li> <li>&gt; credibility given to hearsay/rumour</li> <li>&gt; mindset/cognitive state of interviewee, eg, are they still in shock/thinking rationally?</li> </ul> </li> <li>• Dealing with interviewees who are unwilling to take part in the interview process</li> <li>• Concept of 'blame culture' and why it is a barrier to open accident/incident interviews</li> </ul>	<p>Outline positive strategies that can be adopted for interviews following accidents or incidents and the barriers to successful interview outcomes.</p>

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Understand how to investigate incidents and confidently carry out an investigation	<b>1.4</b> <ul style="list-style-type: none"> <li>• Bias, examples of it, and how it can affect interviews and the wider incident investigation process:               <ul style="list-style-type: none"> <li>&gt; self-serving</li> <li>&gt; fundamental attribution error</li> <li>&gt; 'cherry picking'.</li> </ul> </li> </ul>	Outline positive strategies that can be adopted for interviews following accidents or incidents and the barriers to successful interview outcomes.
	<b>1.5</b> <b>Advanced incident investigation techniques</b> <ul style="list-style-type: none"> <li>• Introduction to advanced incident investigation techniques: root cause analysis (fishbone/cause and effect analysis; event tree analysis; fault tree analysis).</li> </ul>	An introduction to advanced incident investigation techniques.