

1. Title	Master the study of fluid dynamics and fire simulation tools
2. Code	EMFSDE703A
3. Range	Specialize in the theory of fire dynamics and the application of computational fluid dynamics (CFD) simulation software, in the absence of complete or consistent data/information, at locations where complicated fire safety design is involved.
4. Level	7
5. Credit	6
6. Competency	<p style="text-align: center;"><u>Performance Requirements</u></p> <p>6.1 Master the theory of fire dynamics      ♦ Specialize in the calculation and analysis of the data from different combustion phenomena in the absence of complete or consistent data/information, including:</p> <ul style="list-style-type: none"> <li>• Heat current effect generated by flames</li> <li>• Fume generated in combustion and its flow change</li> <li>• Heat release rate, heat energy and temperature change related to flames and fume</li> <li>• Combustion change inside the space</li> </ul> <p>6.2 Master the methods and applications of fire simulation study      ♦ Specialize in applying computation methods for different types of fire simulation in the absence of complete or consistent data/information, including:</p> <ul style="list-style-type: none"> <li>• Zone model</li> <li>• Field model</li> <li>• Master CFD simulation software (FPETOOL, FIRECAL)</li> </ul>
7. Assessment Criteria	<p>The integrated outcome requirements of this unit of competency are:</p> <p>(i) Capable to study combustion data change, under different situations/conditions, in the absence of complete or consistent data/information; and</p> <p>(ii) Capable to use CFD simulation software for complicated fire simulation study and analysis.</p>
8. Remarks	The credit value of this unit of competency is set on the presumption that the person already possesses basic knowledge of combustion dynamics and fire simulation.