



# **Computer Science** **ATAR Course**

## **Entity Relationship Diagrams**

### **Advice Paper**

*(For use with Year 11 and Year 12 examinations and assessment tasks)*

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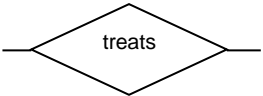

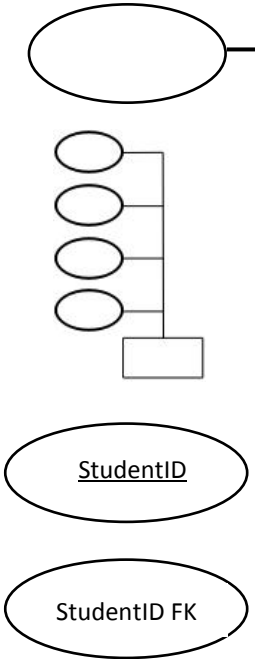
Any resources such as texts, websites and so on that may be referred to in this document are provided as examples of resources that teachers can use to support their learning programs. Their inclusion does not imply that they are mandatory or that they are the only resources relevant to the course.

This document is valid for teaching and examining until 31 December 2016

## Chen's notation

The Computer Science ATAR syllabus requires the use of Chen's notation as a convention to represent Entity Relationship (ER) diagrams when modelling a data base solution. However, online and text resources are inconsistent in the representation of foreign key fields and attributes when using Chen's notation.

To provide clarity and ensure consistency when constructing ER diagrams using Chen's notation, the following applies:

<b>Entities</b>		An entity is represented by a rectangle, containing the name of the entity expressed as a singular noun. An entity is connected to an attribute and/or a relationship by a straight line.
<b>Relationships</b>		A relationship is represented by a diamond, containing the relationship type expressed as a verb. Two single lines either side of the diamond connect the relationship to the entities.
<b>Cardinality</b>		Cardinality is represented by placing the type of cardinality (1:1, 1:M, M:N), at the extremities of the connectors to the entities.
<b>Attributes</b>		<p>An attribute is represented by an oval. An oval contains a single attribute label expressed as an adjective and is connected to an entity by a single straight line.</p> <p>Multiple attributes can be connected to an entity by a nested connecting line.</p> <p>For the purpose of this course:</p> <ul style="list-style-type: none"> <li>• The primary key field/s is identified by a single underline</li> <li>• The foreign key field/s is identified by the use of the letters 'FK' next to the field</li> </ul>

**Note:** The use of the following is **beyond** the requirements of the Computer Science ATAR syllabus:

- Weak entity
- Multi-valued and derived attributes
- Weak and optional relationships
- Participation constraints

Teachers may wish to provide more able students extension activities to explore these concepts. However they **do not reflect** the examinable content of the Computer Science ATAR syllabus for Year 11 and Year 12.