

COMM1822

Term 2 2022

Introduction to Databases for Business Analytics

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<https://powcoder.com>

Week 1 Entity Relationship (ER) Modelling Part 1

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Lecturer: Kam-Fung (Henry) Cheung
E-mail: kf.cheung@unsw.edu.au



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Week 1 Welcome Video (Online Class Manner)

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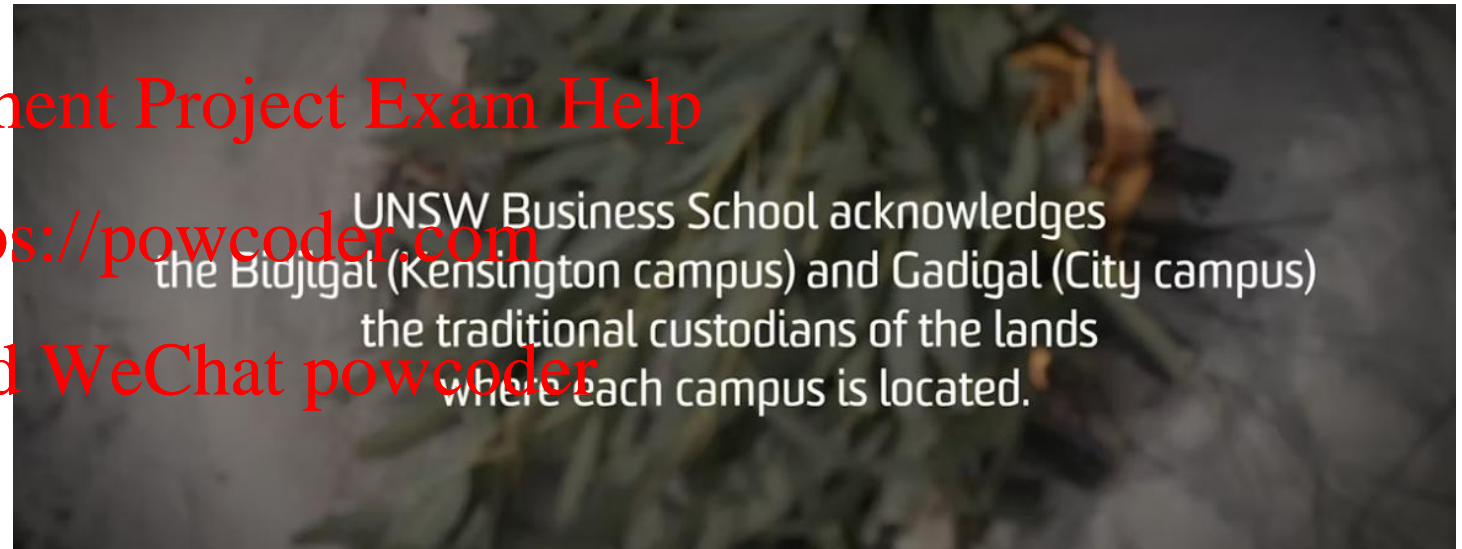
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Acknowledgement of Country

UNSW Business School acknowledges the Bidjigal (Kensington campus) and Gadigal (City campus) the traditional custodians of the lands where each campus is located.

We acknowledge all Aboriginal and Torres Strait Islander Elders, past and present and their communities who have shared and practiced their teachings over thousands of years including business practices.

We recognise Aboriginal and Torres Strait Islander people's ongoing leadership and contributions, including to business, education and industry.



UNSW Business School. (2022, May 7). *Acknowledgement of Country* [online video]. Retrieved from <https://vimeo.com/369229957/d995d8087f>

Ice Breaker



source: LinkedIn

Things you need to know

Attendance

- Please join your class weekly via Teams few minutes before start.
- For On-Campus classes, please be ready in class to class.
- Attendance will be marked virtually (for online classes), if you exit the classroom or do not participate this will be recorded.
- Please attend the correct virtual workshop.

Online classes Etiquettes.

- Please have a working headset or microphone for verbal communication.
- Mute your Microphone but have your camera **ON**.
- Do not talk over others, please use the “Raise the Hand” function.
- Please minimize background disruptions e.g., barking dog, music, television etc.

Things you need to know

You must only attend the tutorial that you have enrolled in.

Please be prepared! **Assignment Project Exam Help**

- Before class: **<https://powcoder.com>**
 - Do the activities before joining classes.
- During class: **Add WeChat powcoder**
 - Weeks 1 - 2: ER Modelling
 - Apply theory taught in lecture
 - Go through examples and exercises
 - Complete lab exercises on ER modelling
 - Week 3 onwards: SQL
 - We will run through activities in class

Clarifying Class Participation and lab requirements

Attendance and Class Participation

- To get full attendance, you must attend your class and fully participate.
- Your tutor would take attendance during lab anytime.
- Business School requires 80% minimum attendance.

If you are sick or unable to attend the lab, you can submit a Special Consideration.

- Special consideration: <https://student.unsw.edu.au/special-consideration>

PASS Class



PASS Class

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Friday 10am – 11am (BUS 216 and online) – starting Week 2

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PASS Leader: Srilekha Kolaki

Group Assignment



You need to solve the assignment in a group of 4 (or 5 if needed) students.

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Assign one member of the team as team leader

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Submit a signed group cover sheet and enroll in the correct Moodle group by the end of Week 2

Things to consider when choosing group members

- ☐ Do they have the same **outcome expectation** as you (e.g., are all team members aiming for a HD or a credit)?
- ☐ **Time** schedule – is everyone available for a meeting to discuss about the assignment together at a specified time every week?
- ☐ **Location** – if there are face-to-face meetings, where is everyone situated?
- ☐ **Time Zone** – If you are in a different time zone, please tell your peers.



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ER Modelling Exercises

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Exercise 1

Employee Entity

EmpNo	Name	StartDate	Scale	DeptNo	ExtNo	OfficeNo
200	M. Cobby	12/04/96	S1	42	2345	663
267	S. Bedbrook	01/06/92	GS2	42	4271	663
296	D. Hawkins	01/09/02	P2	16	4364	382
281	B. Watts	23/10/01	P3	21	9478	251
341	I. Oxford	07/10/99	GS2	33	3216	338
367	A. Varty	10/09/90	D4	33	3216	338

Department Entity

DeptNo	DeptName	HeadOfDept
16	English	A. C. Taylor
21	French	G. F. A. Andrews
33	Comp Sc	M. H. Martin
42	Maths	J. F. Smith

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- What is the PK in Employee?
- What is the PK in Department?
- What is the FK?
- What is the name of Head of Computer Science?
- List the names of people who work for J. F. Smith.
- Draw your first ER diagram!

Exercise 2

TUTORIAL_CLASS

CourseID	TutID	Day	Time	ClassID	TutName
INFS1602	01A	Mon	09:00-10:00	EE 221	Dr Hood
INFS1602	02A	Mon	09:00-10:00	Quad1045	Mr. Parkin
INFS1603	01A	Tue	10:00-11:00	AS G01	Dr Aurum

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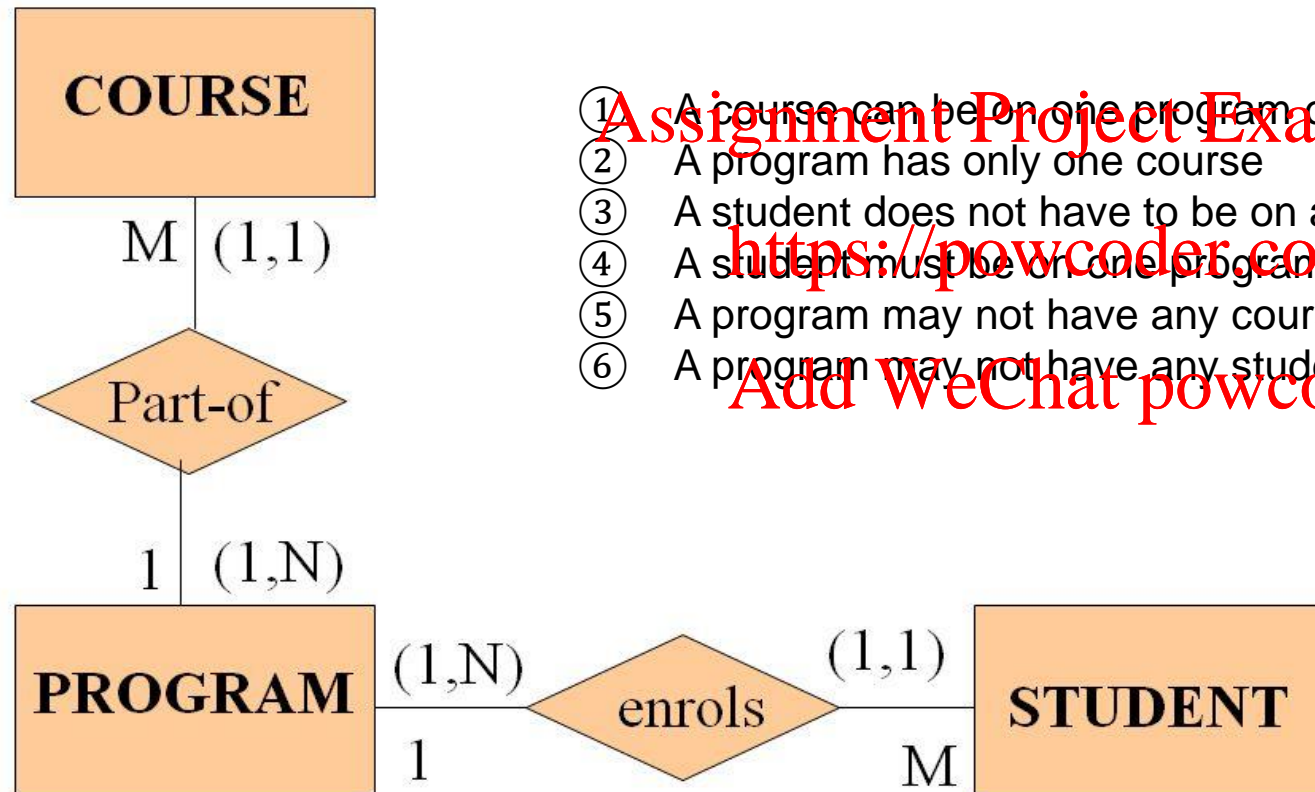
LOCATION

ClassID	Capacity	Video	Computer
EE221	100	No	Yes
Quad G052	30	No	No
Quad 1045	30	No	No
AS G01	25	Yes	No

- a) What is the PK for TUTORIAL_CLASS?
- b) What is the PK for LOCATION?
- c) Can Mr. Parkin use Video and Computer in his class?

Exercise 3

Examine the ER diagram in this figure and state which of the following statements is true.



- ① A course can be on one program only
- ② A program has only one course
- ③ A student does not have to be on any program
- ④ A student must be on one program only
- ⑤ A program may not have any course at all
- ⑥ A program may not have any student in it

Exercise 4

❑ Create an ER model in Chen's Notation for each of the following descriptions:

- a) Each company operates four departments, and each department belongs to one company.
- b) Each department in part (a) employs one or more employees, and each employee works for one department.
- c) Each of the employees in part (b) may or may not have one or more dependents, and each dependent belongs to one employee.
- d) Each employee in part (c) may or may not have an employment history.
- e) Represent all the ER models described in (a), (b), (c), and (d) as a single ER model

Exercise 5

Create an ER model for the following requirements:

❑ UNSW Fitness Club

- The club offers a number of exercise classes (described by exercise number, exercise type, exercise level) for its members i.e. staff and students.
- A member can participate in several exercise classes or none at all.
- Each exercise class has one employee assigned as its instructor.
- Each instructor (described by instructor id, name, address) teaches at least one class and may teach up to 5 classes.
- Each exercise class is taught in a specified room, on a specified date and time.
- Rooms can be used for different classes.

Do not use composite entities for now.

Exercise 6

Create the ER diagram (entities, relationship, and key attributes) appropriate to the following description of a university program structure:

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Business Rules:

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- ☐ A program contains many courses.
- ☐ A course can be part of many programs.
- ☐ Students enrol in many courses.
- ☐ Students may enrol in more than one program.

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Do not use composite entities for now.

Next week Activities

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Please check Moodle

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Activities of Week 2 must be completed prior to Wednesday 4.00pm of Week 2



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Questions

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Course Outline -

<https://www.business.unsw.edu.au/degrees-courses/course-outlines/archives/COMM1822-2022-T2>

If there are any other questions, please post your questions on Moodle.



Source: tryinteract.com