

1.

a. Main entity types

DEPARTMENTS

MAJORS

STUDENTS

EVENTS

b. Main relationship types between entity types

DEPARTMENTS have MAJORS

DEPARTMENTS have EVENTS

MAJORS have STUDENTS

STUDENTS attend EVENTS

c. Multiplicity constraints between relationships

STUDENTS have MAJORS (1:*)

MAJORS have STUDENTS (1:*)

MAJORS are in DEPARTMENTS (1:1)

DEPARTMENTS have MAJORS (1:*)

DEPARTMENTS have EVENTS (0..*)

STUDENTS attend EVENTS (1:*)

EVENTS have STUDENTS (1..*)

EVENTS are in DEPARTMENTS (1..*)

d. Identify attributes and associate them with entity or relationship types

DEPARTMENTS have

department_name

department_chair

MAJORS have

major_code

major_name

STUDENTS have

student_id

student_name

student_initial

EVENTS have

event_name

event_start_date

event_end_date

- e. Candidate and primary key attributes for each (strong) entity type

Candidate keys:

department_name

major_code, major_name

student_id

event_name

Primary keys:

department_name

major_code

student_id

event_name

- f. ER diagram for conceptual level

ER diagram for the conceptual level (Redwood University)

Cameron VanDyke | December 10, 2021

