Database Management Essentials
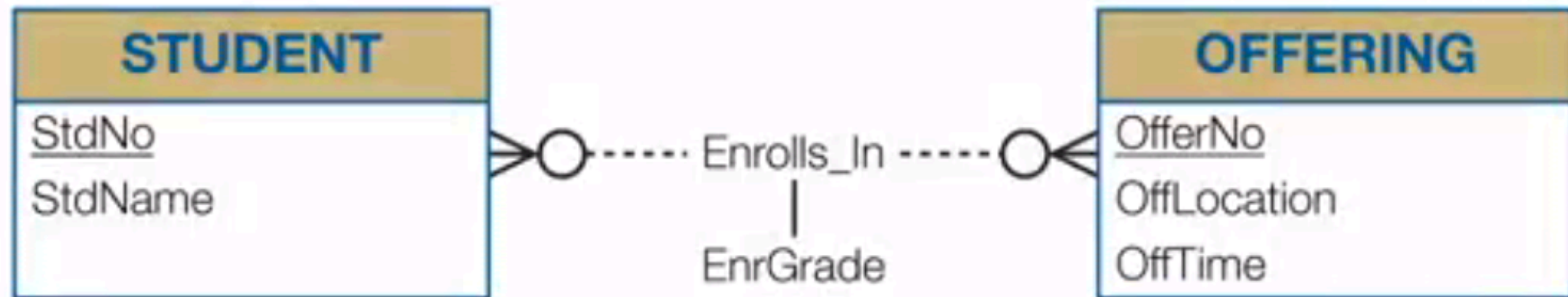
Schema Conversion

Conversion Rules

- Entity Type Rule: Entity Type → Table

  - PK of entity type → PK of table

  - Attributes of entity type → Columns in table

- 1-M Relationship Rule: FK should placed in child table

- M-N Relationship Rule: Combined PK

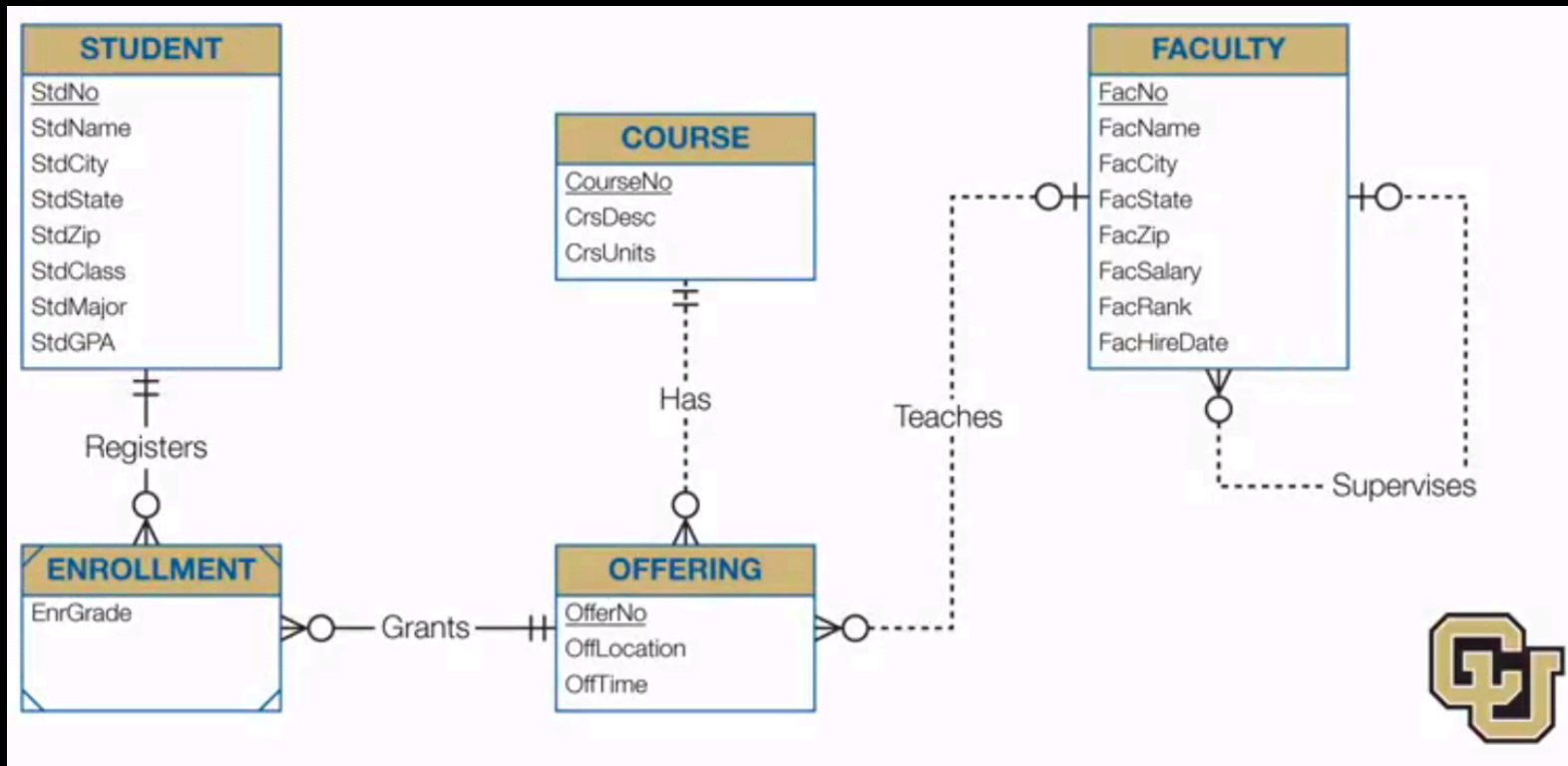 - Attributes in M-N relationship → Columns in table

Exercise 1

STUDENT
- StdNo
- StdName

Enrolls_In

EnrGrade

OFFERING
- OfferNo
- OffLocation
- OffTime

CREATE TABLE Student (…, PRIMARY KEY (StdNo))

CREATE TABLE Offering (…, PRIMARY KEY (OfferNo))

CREATE TABLE Enrollment (…, PRIMARY KEY (StdNo, OfferNo), FOREIGN KEY (StdNo) REFERENCES Student, FOREIGN KEY (OfferNo) REFERENCES Offering)

Exercise 2


```sql
CREATE TABLE Course
(
    ...,
    PRIMARY KEY (CourseNo)
)

CREATE TABLE Student
(
    ...,
    PRIMARY KEY (StdNo)
)

CREATE TABLE Faculty
(
    ...,
    PRIMARY KEY (FacNo),
    FOREIGN KEY (FacSupNo) REFERENCES
Faculty
)

CREATE TABLE Offering
(
    ...,
    PRIMARY KEY (OffNo),
    FOREIGN KEY (CourseNo) REFERENCES
Course,
    FOREIGN KEY (FacNo) REFERENCES
Faculty,
    CONSTRAINT CourseNo NOT NULL
)

CREATE TABLE Enrollment
(
    ...,
    PRIMARY KEY (OfferNo, StdNo),
    FOREIGN KEY (OfferNo) REFERENCES
Offering,
    FOREIGN KEY (StdNo) REFERENCES Student
)
```