



Business School  
UNIVERSITY OF COLORADO DENVER

Information Systems Program

# Module 6

## Notation for Entity Relationship Diagrams

### Lesson 2: Basic ERD Notation

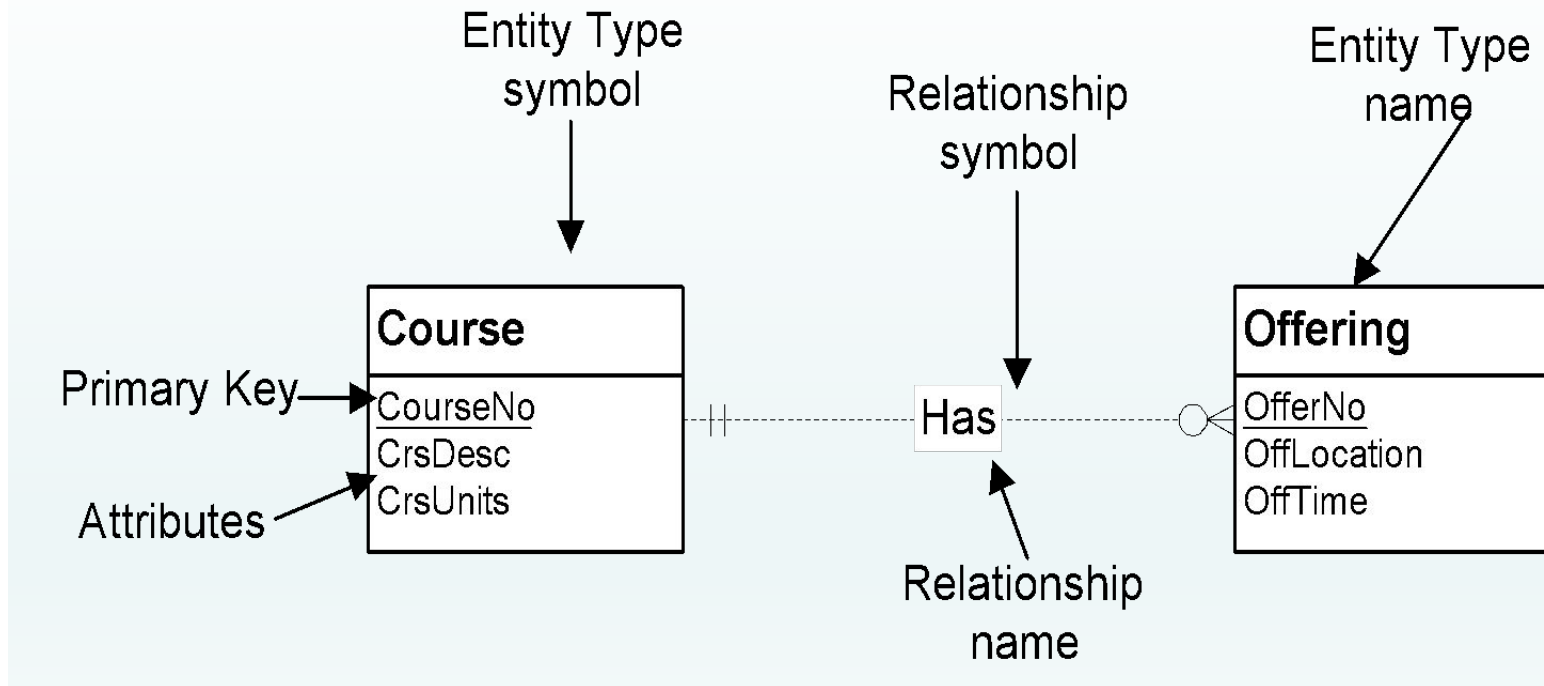


# Lesson Objectives

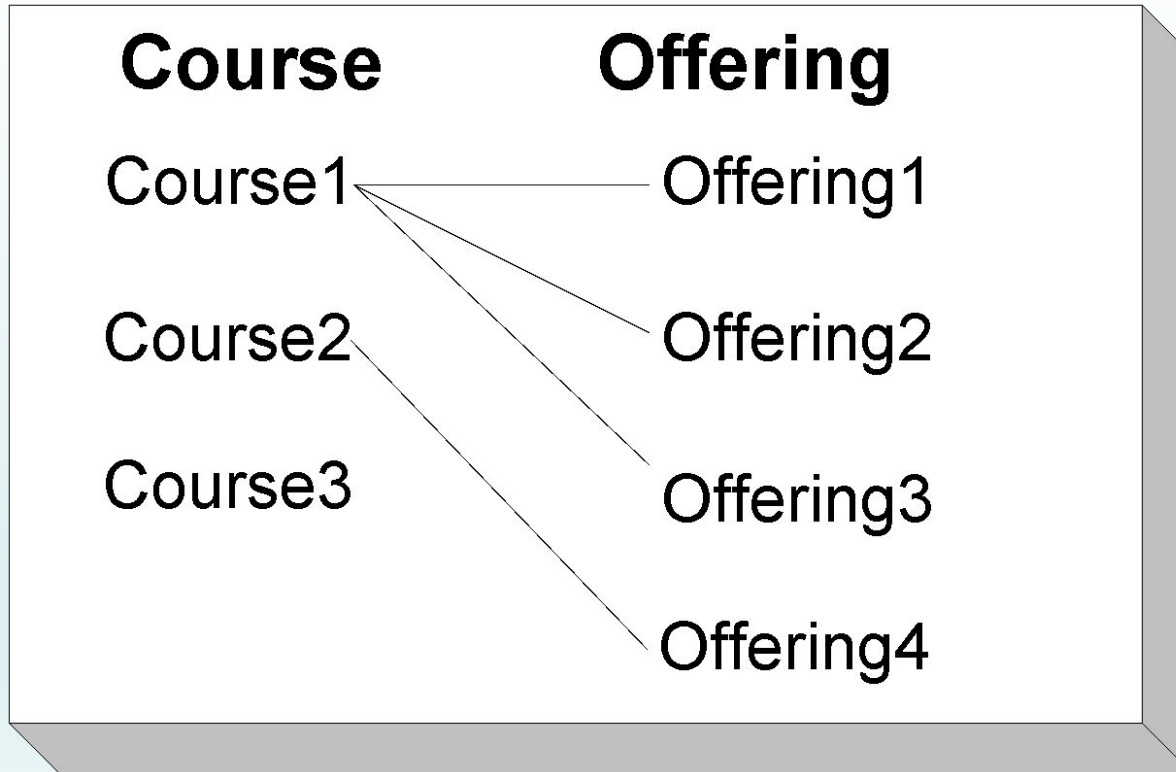
- Explain cardinality notation in an ERD
- Explain differences between ERD notation and relational database diagram



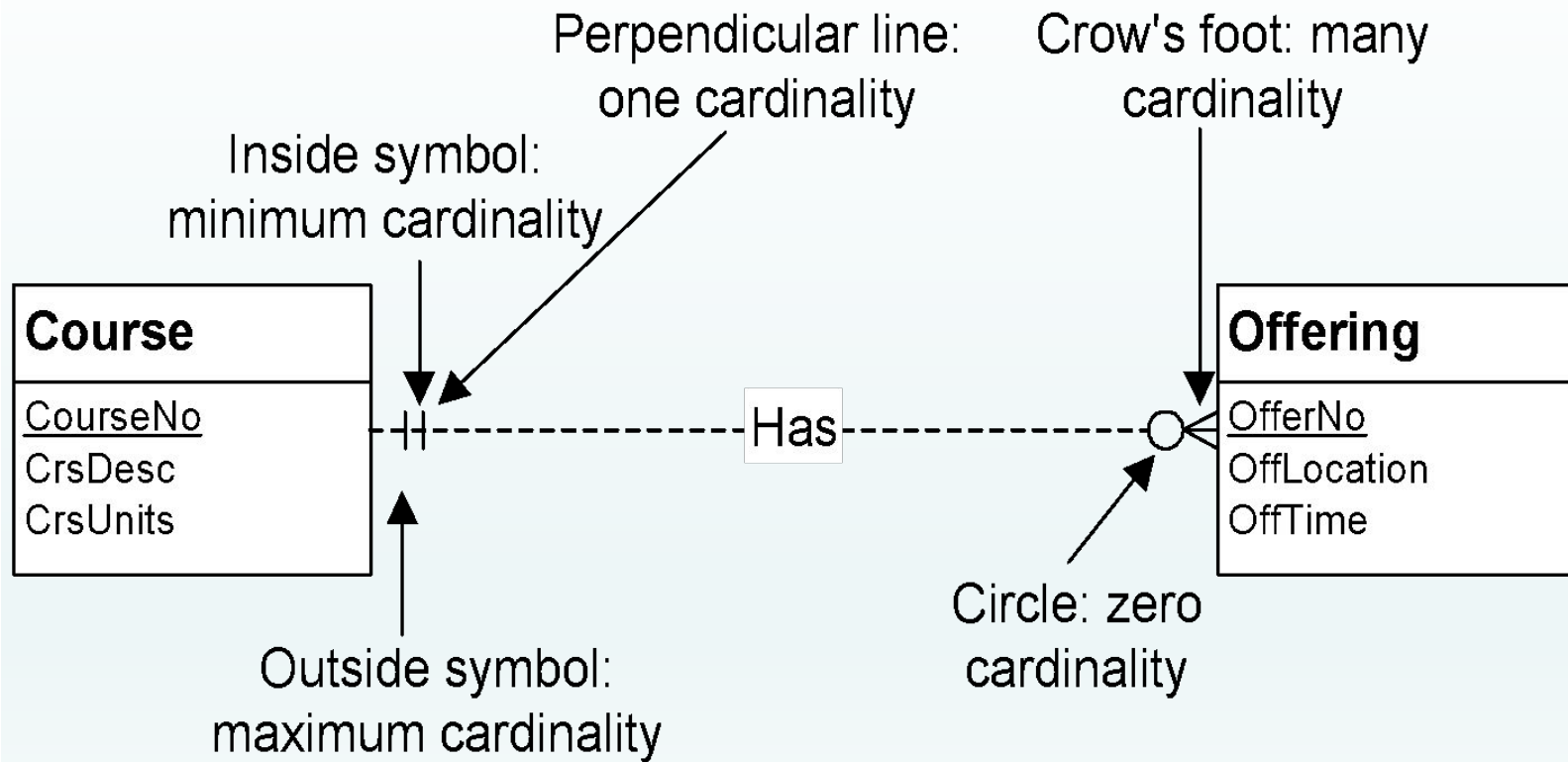
# Basic Symbols



# Cardinalities



# Cardinality Notation

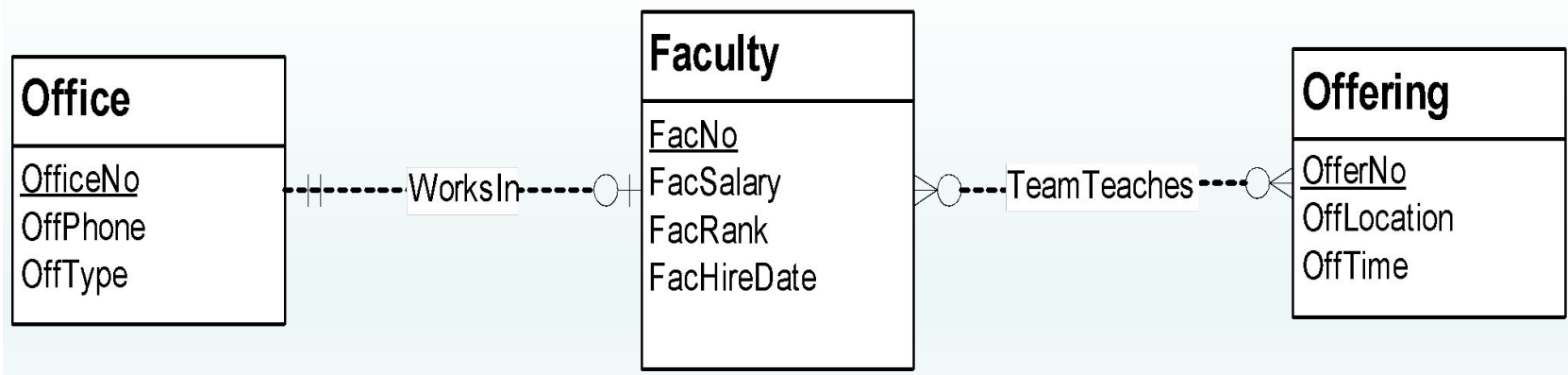


# Important Cardinalities

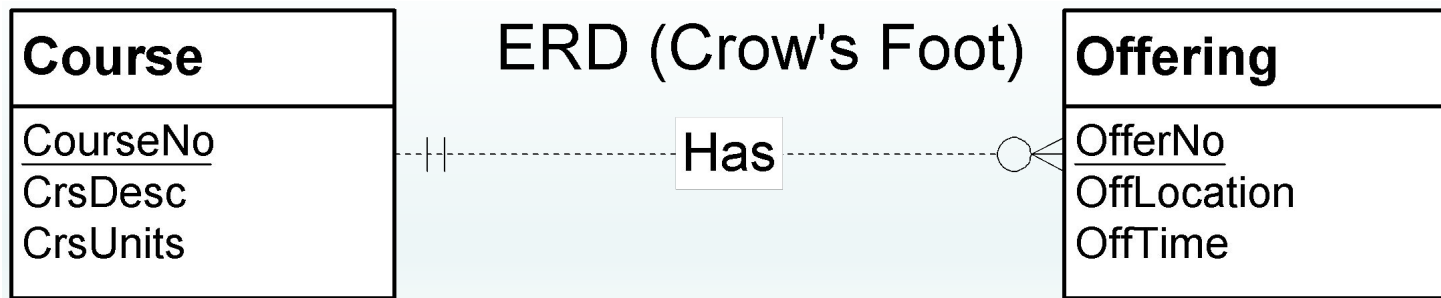
Classification	Cardinality Restrictions
Mandatory	Minimum cardinality $\geq 1$
Optional	Minimum cardinality = 0
Functional or single-valued	Minimum cardinality = 1
1-M	Maximum cardinality = 1 in one direction; maximum cardinality $> 1$ in the other direction
M-N	Maximum cardinality $> 1$ in both directions
1-1	Maximum cardinality = 1 in both directions



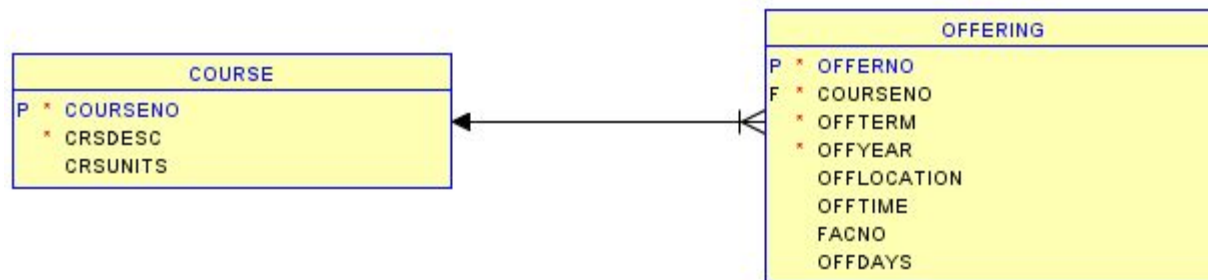
# More Relationship Examples



# Comparison to Oracle Notation



## Oracle Relational Model Diagram





# Summary

- Crow's Foot ERD notation is widely used
- Use notation precisely
- Differentiate ERD notation from Relational Data Model
- Understanding the ERD notation is a prerequisite to applying the notation on business problems

