

Table 3

Learning and Measurable Objectives by Construct Set for the Course Objective *Implement Relational Databases via a RDBMS for Clinical Usage (Data Definition Language)*

Learning Objectives	Set	Example Measures (Quadrants for ECS)
Schemas	MCS	- Create and drop schemas
Tables	MCS	- Create, drop, and alter tables
Attributes	MCS	- Naming, data type selection, and inline constraints
Constraints		
- Primary and foreign keys	MCS	- Construct primary key and foreign key constraint - Identify attribute(s)/reference table included
- Optional, default values, and domains	MCS	- Construct constraints
Indices		
- Construction and defaults	MCS	- Create and drop basic indices - Default key indexing—DBMS-specific
- Composite, join, partial, and unique	ECS	- Create advanced indices (TT)
- Data structures (e.g., b-trees and bitmap)	ECS	- Assign most appropriate data structure by anticipated use and response requirements (TT)
Views		
- Basic views	MCS	- Create and drop basic views - Define view as inline-select and subquery replacement
- Temporary, updatable, and materialized	ECS	- Create and determine lifespan of temporary views (TT) - Create and drop updatable views (TT) - Determine view(s) to be materialized, create, and drop (TT)

Abbreviations: DBMS, database management system; ECS, extended construct set; MCS, minimum construct set; N, nontechnical; RDBMS, relational database management system; T, technical.

Notes: Quadrants listed for each ECS measure are defined in Table 1 and would be measured by a combination of the student survey and students' progress. The ECS and MCS for the objective in this example are in Tables 5 and 6 of the following source (the previous article in this series).

Source: Hylock, Ray, and Susie T. Harris. "Healthcare Database Management for Health Informatics and Information Management Students: Challenges and Instruction Strategies—Part 1." *Educational Perspectives in Health Informatics and Information Management* (Winter 2016): 1–24.