

The following explains the tables that are needed for Concept Progression Maps, as well as other decisions that are made at this point in the project.

**Bold** fields represent primary keys, while underlined attributes represent a foreign key. The colors match to represent this relationship.

<b><u>Table Name</u></b>	<b><u>Fields Needed</u></b>
STUDENT	<b>ID</b> : CHAR(7) FIRST_NAME: VARCHAR(50) LAST_NAME: VARCHAR(50)
INSTRUCTOR	<b>ID</b> : CHAR(7) FIRST_NAME: VARCHAR(50) LAST_NAME: VARCHAR(50)
COURSES	<b><u>COURSE_ID</u></b> : CHAR(5) <b><u>SEMESTER_ID</u></b> : CHAR(4) DEPT_CODE: VARCHAR(6) NUMERIC_CODE: VARCHAR(6) TITLE: VARCHAR(50) <b><u>INSTRUCTOR_ID</u></b> : CHAR(7)
CONCEPTS	<b>ID</b> : CHAR(7) NAME: VARCHAR(50)
TOPICS	<b>ID</b> : CHAR(7) NAME: VARCHAR(50)
STUDENT_COURSES	<b><u>STUDENT_ID</u></b> : CHAR(7) <b><u>COURSE_ID</u></b> : CHAR(5) <b><u>SEMESTER_ID</u></b> : CHAR(4)
COURSES_TOPICS	<b><u>COURSE_ID</u></b> : CHAR(5) <b><u>SEMESTER_ID</u></b> : CHAR(4) <b><u>TOPIC_ID</u></b> : CHAR(7)
TOPICS_CONCEPTS	<b><u>TOPIC_ID</u></b> : CHAR(7) <b><u>CONCEPT_ID</u></b> : CHAR(7)
COURSE_CONTENT_MAPS	<b><u>COURSE_ID</u></b> : CHAR(5) <b><u>SEMESTER_ID</u></b> : CHAR(4) XML_CONTENT: BLOB DATE_LOADED: DATETIME

Information such as Student Statistics and All Course Statistics should be calculated on an ad-hoc basis or in a batch fashion (perhaps once a day, once every 12 hours) in order to reduce the load on third party APIs for Canvas, TopHat, and Gradescope.

Database Component Diagram:

