CEAS-14-CS-07

REQUEST TO COLLEGE CURRICULUM COMMITTEE FOR CURRICULAR IMPROVEMENTS

DEPARTMENT: CS **PROPOSED EFFECTIVE SEMESTER:** Spring 2015 **COLLEGE:** CEAS

PROPOSED IMPROVEMENTS

Academic Program
- ☐ New degree*
- ☐ New major*
- ☐ New curriculum*
- ☐ New concentration*
- ☐ New certificate
- ☐ New minor
- ☐ Revised major
- ☐ Revised minor
- ☐ Admission requirements
- ☐ Graduation requirements
- ☐ Deletion ☐ Transfer
- ☐ Other (explain**)

Substantive Course Changes
- ☐ New course
- ☒ Pre or Co-requisites
- ☐ Deletion (required by others)
- ☐ Course #, different level
- ☐ Credit hours
- ☐ Enrollment restriction
- ☐ Course-level restriction
- ☐ Prefix ☐ Title and description (attach current & proposed)
- ☐ General education (select one)
  Not Applicable
- ☐ Other (explain**)

Misc. Course Changes
- ☒ Title
- ☒ Description (attach current & proposed)
- ☐ Deletion (not required by others)
- ☐ Course #, same level
- ☐ Variable credit
- ☐ Credit/no credit
- ☐ Cross-listing
- ☐ COGE reapproval
- ☒ Other (explain**)

** **Other:** A minimum grade of C in the prerequisite courses

Title of degree, curriculum, major, minor, concentration, or certificate:

Existing course prefix and #: CS5430 **Proposed course prefix and #:** **Credit hours:**

Existing course title: Principles of Database Management Systems

Proposed course title: Database Systems

Existing course prerequisite & co-requisite(s): CS3310
Proposed course prerequisite(s)
If there are multiple prerequisites, connect with "and" or "or". To remove prerequisites, enter "none."
Proposed course co-requisite(s)
If there are multiple corequisites, they are always joined by "and."
Proposed course prerequisite(s) that can also be taken concurrently:
Is there a minimum grade for the prerequisites or corequisites?
A minimum grade of C in the prerequisite course
Major/minor or classification restrictions:
List the Banner 4 character codes and whether they should be included or excluded.
For 5000 level prerequisites & corequisites: Do these apply to: (circle one) undergraduates graduates both

Specifications for University Schedule of Classes:
a. Course title (maximum of 30 spaces): Database Systems
b. Multi-topic course: ☒ No ☐ Yes
c. Repeatable for credit: ☒ No ☐ Yes
d. Mandatory credit/no credit: ☒ No ☐ Yes
e. Type of class and contact hours per week (check type and indicate hours as appropriate)
1. ☒ Lecture
2. ☐ Lab or discussion
3. ☐ Lecture/lab/discussion
4. ☐ Seminar or ☐ studio
5. ☐ Independent study
6. ☐ Supervision or practicum

CIP Code (Registrar's use only):

Chair/Director _____ Date 2/27/15

Chair, College Curriculum Committee _____ Date _____

Dean _____ Date: _____ Graduate Dean: _____ Date _____

Curriculum Manager: Return to dean ☐ Date _____ Forward to: _____ Date _____

Chair, COGE/ PEB / FS President _____ Date _____

FOR PROPOSALS REQUIRING GSC/USC REVIEW:

* ☐ Approve ☐ Disapprove | Chair, GSC/USC _____ Date _____

* ☐ Approve ☐ Disapprove | Provost _____ Date _____

Revised May 2007. All previous forms are obsolete and should not be used.

1. Explain briefly and clearly the proposed improvement.

   This proposed improvement is to make the following changes to CS5430 (Principles of Database Management Systems): (1) change title to Database Systems, and (2) change the catalog description to "An introductory course on relational database design, query and programming. Topics include relational model, relational algebra, conceptual design using entity-relationship model, functional dependency and normal forms, SQL, constraints and triggers, indexes, views, authorization, stored procedures, database programming, and transactions. Other topics include object-relational data model and an overview of database management system implementations. Student will get experience on how to design and use a relational database. A student may not receive credit for both CS 4430 and CS 5430."

   A minimum grade of C in the prerequisite courses

2. Rationale. Give your reason(s) for the proposed improvement. (If your proposal includes prerequisites, justify those, too.)
   - Title. The rapid development of this subject no longer restricts its study on principles of database management. A more general title is needed to reflect such development.
   - Description. The current description, "The fundamentals of database design and usage are covered, focusing on the relational data model. Topics include basic DB and DBMS concepts, logical design (ER modeling, normalization), physical storage concepts, relational algebra, SQL query language, PL/SQL and embedded SQL. A relational DBMS is used for lab assignments. Other topics may include query optimization, transaction processing, concurrency, security, forms/reports, object-relational data model, and an overview of advanced DB topics. A student may not receive credit for both CS 4430 and CS 5430", contains topics that are no longer being taught. The new description gives more accurate information regarding current teaching of the course.

3. Effect on other colleges, departments or programs. If consultation with others is required, attach evidence of consultation and support. If objections have been raised, document the resolution. Demonstrate that the program you propose is not a duplication of an existing one.

   None.

4. Effect on your department's programs. Show how the proposed change fits with other departmental offerings.

   The perspective students will have a better understanding of what they expect to learn from the course.

5. Effects on enrolled students: Are program conflicts avoided? Will your proposal make it easier or harder for students to meet graduation requirements? Can students complete the program in a reasonable time? Show that you have considered scheduling needs and demands on students' time. If a required course will be offered during summer only, provide a rationale.

   No change.

6. Student or external market demand. What is your anticipated student audience? What evidence of student or market demand or need exists? What is the estimated enrollment? What other factors make your proposal beneficial to students?

   No change.

7. Effects on resources. Explain how your proposal would affect department and University resources, including faculty, equipment, space, technology, and library holdings. Tell how you will staff additions to the program. If more advising will be needed, how will you provide for it? How often will course(s) be offered? What will be the initial one-time costs and the ongoing base-funding costs for the proposed program? (Attach additional pages, as necessary.)

   None.

8. General education criteria. For a general education course, indicate how this course will meet the criteria for the area or proficiency. (See the General Education Policy for descriptions of each area and proficiency and the criteria. Attach additional pages as necessary. Attach a syllabus if (a) proposing a new course, (b) requesting certification for baccalaureate-level writing, or (c) requesting reapproval of an existing course.) N/A

9. List the learning outcomes for the proposed course or the revised or proposed major, minor, or concentration. These are the outcomes that the department will use for future assessments of the course or program. N/A

10. Describe how this curriculum change is a response to assessment outcomes that are part of a departmental or college assessment plan or informal assessment activities. N/A

11. (Undergraduate proposals only) Describe, in detail, how this curriculum change affects transfer articulation for Michigan community colleges. For course changes, include detail on necessary changes to transfer articulation from Michigan community college courses. For new majors or minors, describe transfer guidelines to be developed with Michigan community colleges. For revisions to majors or minors, describe necessary revisions to Michigan community college guidelines. Department chairs should seek assistance from college advising directors or from the admissions office in completing this section. N/A

Current Catalog Description

CS 5430 - Principles of Database Management Systems

The fundamentals of database design and usage are covered, focusing on the relational data model. Topics include basic DB and DBMS concepts, logical design (ER modeling, normalization), physical storage concepts, relational algebra, SQL query language, PL/SQL and embedded SQL. A relational DBMS is used for lab assignments. Other topics may include query optimization, transaction processing, concurrency, security, forms/reports, object-relational data model, and an overview of advanced DB topics. A student may not receive credit for both CS 4430 and CS 5430.

Prerequisites/Corequisites: Prerequisite: CS 3310.

Credits: 3 hrs.

Proposed Catalog Description

CS 5430 - Database Systems

An introductory course on relational database design, query and programming. Topics include relational model, relational algebra, conceptual design using entity-relationship model, functional dependency and normal forms, SQL, constraints and triggers, indexes, views, authorization, stored procedures, database programming, and transactions. Other topics include object-relational data model and an overview of database management system implementations. Student will get experience on how to design and use a relational database. A student may not receive credit for both CS 4430 and CS 5430.

Prerequisites/Corequisites: Prerequisite: CS 3310.

Credits: 3 hrs.