Program Proposal
Form B

Academic Group (*College*): ECS	**Date of Submission to College Dean: February 7, 2011**
Academic Organization (*Department*): Computer Science	**Requested Effective: Fall_X_, Spring___, 20_11_.**
Department Chair: Cui Zhang	**Contact if not Department Chair:**

Title of the Program (*Please be specific; indicate minor, undergraduate or graduate degree, etc.*)**:**
Computer Science Graduate Certificate in Data Mining

Type of Program Proposal:

___X___ Modification in Existing Program:
              _X_ Substantive Change
              ___ Non-Substantive Change
              ___ Deletion of Existing Program

_____ New Programs
              ___ Initiation (Projection) of New Program on to Master Plan
              ___ New Degree Programs
                    ___Regular Process
                    ___Fast Track Process
                    ___Pilot Process
              ___ New Minor, Concentration, Option, Specialization, Emphasis
              ___ New Certificate Program

PLEASE NOTE: Form B is to be used only as a Cover Form. Additional information is requested for each of the above as noted in the corresponding procedure in the Policies and Procedures for Initiation, Modification, Review and Approval of Courses and Academic Programs found at http://www.csus.edu/umanual/acad.htm

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Briefly describe the program proposal (new or change) and provide a justification.

Proposal: To change the existing certificate in Bioinformatics Technology (12 units) to a certificate in Data Mining (9 units). This is a substantive revision to the existing certificate in Bioinformatics Technology including: title change, reduction of 3 units, addition of CSC 177, and deletion of 4 courses (CSC 215, CSC 258, CHEM 245, and Bio 224).

Justification: To meet the changing needs of computing industry, we decided to tighten up the certificate program and focus on data mining. Towards this objective, CSC 177 is added to be a required course; Bioinformatics has become one of the application areas of data mining; CSC 215, CSC 258, CHEM 245, and Bio 224 are removed due to their less relevance to data mining.
The 9-units course requirement will make this certificate in Data Mining match with other existing 9-units certificates in CSC graduate program.

Approvals:

Department Chair:_____ Date: 2/15/2011

College Dean:_____ Date: 2/15/11

University Committee:_____ Date: 3/8/11

Associate Vice President and Dean
  for Academic Affairs:_____ Date: 3/17/11

ANALYSIS OF PROGRAM CHANGE PROPOSAL
FOR THE COMPUTER SCIENCE GRADUATE CERTIFICATE IN DATA MINING
February 7, 2011

1. **Form B:** Attached.

2. **Programmatic or Fiscal Impact on Other Academic Units' Programs.**

   N/A

3. **Fiscal Analysis of Proposed Changes.**

   a. **How will the proposed changes be accommodated within department/college existing fiscal resources?**

      No additional resources are needed.

   b. **If the proposed changes will require additional resources, describe the level and nature of additional funding the college will seek.**

      N/A.

   c. **What additional space, equipment, operating expenses, library, computer, or media resources, clerical/technical support, or other resources will be needed? Estimate the cost and indicate how these resource needs will be accommodated.**

      N/A.

4. **New/Old Program Requirements**

   See the next page.

Proposed Changes:

Title change;
Reduction of 3 units;
Addition of CSC 177;
Deletion of 4 courses (CSC 215, CSC 258, CHEM 245, and Bio 224).

NEW PROGRAM REQUIREMENTS	OLD PROGRAM REQUIREMENTS
Certificate in Data Mining (9 units)	**Certificate in Bioinformatics Technology (12 units)**
(3) CSC 177 Data Warehousing and Data Mining (CSC 134 and STAT 50)	+++ +++++++++++++++++++++++++++ +++++++
++ ++++++++++++++++++++++++++ ++++++++++++++++++++++++++ ++++++++++++++++++++++++++ ++++++++++++++++++++++++++ +++++++++++++++++++++++++	(3) CSC 212 Bioinformatics: Data Integration and Algorithms (CSC 130, STAT 50, and graduate status; BIO 10 recommended)
++ ++++++++++++++++++++++++++ ++++++++++++++++++++++++++ ++++++++++++++++++++++++++ +++++++++++++++++++++++++	(3) Select one of the following:
	CSC 215 Artificial Intelligence (fully classified graduate status in Computer Science, Software Engineering, or Computer Engineering)
(3) CSC 219 Machine Learning (fully classified graduate status in Computer Science, Software Engineering, or Computer Engineering)	CSC 219 Machine Learning (fully classified graduate status in Computer Science, Software Engineering, or Computer Engineering)
(3) Select one of the following:	+++++++++++++++++++++++++++
CSC 244 Database Design (CSC 174 or CSC 204)	+++ +++++++++++++++++++++++++ ++++
CSC 212 Bioinformatics: Data Integration and Algorithms (CSC 130, STAT 50, and graduate status; BIO 10 recommended)	+++ ++++++++++++++++++++++++++ ++++++++++++++++++++++++++ ++++++++++++++++++++++++++ ++++++++++++++
+++++++++++++++++++++++++++++++	(3) Select one of the following:
+++ ++++++++++++	CSC 244 Database Design (CSC 174 or CSC 204)
+++ ++++++++++++++++++++++++++ ++++++++++++++++++++++++++ ++++++++++++++++++++++++++ ++++++++++++++++++++++++	CSC 258 Distributed Systems (CSC 204 and fully classified graduate status in Computer Science, Software Engineering, or Computer Engineering)

++++++++++++++++++++++++++++++++++++ ++++++++++++++++++++++++ ++++++++++++++++++++	CHEM 245 Computational Chemistry (one semester of physical chemistry or instructor permission)
++++++++++++++++++++++++++++++++++++++ ++++++++++++++++++++++++ ++++++++++++++++++++++++ ++++++++++++++++	(3) Bio 224 Genomics, Proteomics and Bioinformatics (BIO 184, BIO 222, graduate status or instructor permission)