

CSC 177: DATA ANALYTICS AND MINING

In Workflow

1. CSC Committee Chair (tdk@csus.edu;%20jouyang@csus.edu)
2. CSC Chair (faroughi@csus.edu)
3. ECS College Committee Chair (troy.topping@csus.edu)
4. ECS Dean (kevan@csus.edu)
5. Academic Services (torsetj@csus.edu;%20212408496@csus.edu;%20cnewsome@skymail.csus.edu)
6. Senate Curriculum Subcommittee Chair (curriculum@csus.edu)
7. Dean of Undergraduate (james.german@csus.edu;%20celena.showers@csus.edu)
8. Dean of Graduate (cnewsome@skymail.csus.edu)
9. Catalog Editor (212408496@csus.edu;%20torsetj@csus.edu;%20cnewsome@skymail.csus.edu)
10. Registrar's Office (wwd22@csus.edu;%20w lindsey@csus.edu;%20sac19595@csus.edu;%20danielle.ambrose@csus.edu;%20h.skocilich@csus.edu;%20205109584@csus.edu)
11. PeopleSoft (PeopleSoft@csus.edu)

Approval Path

1. Fri, 26 Apr 2019 21:18:02 GMT
Ted Krovetz (tdk): Approved for CSC Committee Chair
2. Wed, 01 May 2019 00:09:43 GMT
Nikrouz Faroughi (faroughi): Rollback to CSC Committee Chair for CSC Chair
3. Wed, 01 May 2019 22:14:05 GMT
Ted Krovetz (tdk): Rollback to Initiator
4. Fri, 03 May 2019 17:28:58 GMT
Jinsong Ouyang (jouyang): Approved for CSC Committee Chair
5. Fri, 03 May 2019 20:15:38 GMT
Nikrouz Faroughi (faroughi): Approved for CSC Chair
6. Fri, 30 Aug 2019 17:05:54 GMT
Troy Topping (troy.topping): Rollback to Initiator
7. Thu, 12 Sep 2019 21:14:47 GMT
Ted Krovetz (tdk): Approved for CSC Committee Chair
8. Fri, 13 Sep 2019 18:07:02 GMT
Nikrouz Faroughi (faroughi): Approved for CSC Chair
9. Fri, 27 Sep 2019 16:41:29 GMT
Troy Topping (troy.topping): Approved for ECS College Committee Chair
10. Fri, 27 Sep 2019 19:19:18 GMT
Kevan Shafizadeh (kevan): Approved for ECS Dean

Date Submitted: Thu, 12 Sep 2019 21:12:01 GMT

Viewing: CSC 177 : Data Analytics and Mining

Last edit: Thu, 12 Sep 2019 21:12:00 GMT

Changes proposed by: Haiquan Chen (219700833)

Contact(s):

Name (First Last)	Email	Phone 999-999-9999
Haiquan Chen	haiquan.chen@csus.edu	916-278-6087

Catalog Title:

Data Analytics and Mining

Class Schedule Title:

Data Analytics and Mining

Academic Group: (College)

ECS - Engineering & Computer Science

Academic Organization: (Department)

Computer Science

Will this course be offered through the College of Continuing Education (CCE)?

No

Catalog Year Effective:

Spring 2021 (2021/2022 Catalog)

Subject Area: (prefix)

CSC - Computer Science

Catalog Number: (course number)

177

Course ID: (For administrative use only.)

112231

Units:

3

In what term(s) will this course typically be offered?

Spring term only

Does this course require a room for its final exam?

Yes, final exam requires a room

Does this course replace an existing experimental course?

No

This course complies with the credit hour policy:

Yes

Justification for course proposal:

Course content is updated to reflect the best teaching practice in peer institutions to boost data science/data mining education in computer science program, with emphasis on big data analysis and processing.

Course Description: (Not to exceed 80 words and language should conform to catalog copy.)

Theory and implementation of techniques for data analytics and mining with emphasis on big data. Topics include data cleaning, exploratory data analysis, data visualization, feature engineering, classification, clustering, association rule mining, predictive model evaluation, parameter tuning, natural language processing, and selected advanced data mining topics. Design and implementation of systems using contemporary data analysis and mining programming libraries for automatic discovery of patterns and knowledge.

Are one or more field trips required with this course?

No

Fee Course?

No

Is this course designated as Service Learning?

No

Does this course require safety training?

No

Does this course require personal protective equipment (PPE)?

No

Does this course have prerequisites?

Yes

Prerequisite:

CSC 134, and STAT 50 or ENGR 115.

Prerequisites Enforced at Registration?

Yes

Does this course have corequisites?

No

Graded:

Letter

Approval required for enrollment?

No Approval Required

Course Component(s) and Classification(s):

Discussion

Discussion Classification

CS#04 - Lecture /Recitation (K-factor=1 WTU per unit)

Discussion Units

3

Is this a paired course?

No

Is this course crosslisted?

No

Can this course be repeated for credit?

No

Can the course be taken for credit more than once during the same term?

No

Description of the Expected Learning Outcomes: Describe outcomes using the following format: "Students will be able to: 1), 2), etc."

Students will be able to

- 1) Apply current software tools to perform exploratory analysis for various data types.
- 2) Explain basic concepts and algorithms of association analysis, classification, and clustering to solve data mining problems.
- 3) Identify the strengths and limitations of different data mining algorithms
- 4) Apply basic techniques for mining text data.
- 5) Design, implement, and evaluate systems to enable automatic discovery of patterns and knowledge from large data repositories.

Assessment Strategies: A description of the assessment strategies (e.g., portfolios, examinations, performances, pre-and post-tests, conferences with students, student papers) which will be used by the instructor to determine the extent to which students have achieved the learning outcomes noted above.

Assignments (Course Outcomes: 1-5)

Projects, report and presentation (Course Outcomes: 1-5)

Exam (Course Outcomes: 2-4)

Is this course required in a degree program (major, minor, graduate degree, certificate?)

No

Does the proposed change or addition cause a significant increase in the use of College or University resources (lab room, computer)?

No

Will there be any departments affected by this proposed course?

No

I/we as the author(s) of this course proposal agree to provide a new or updated accessibility checklist to the Dean's office prior to the semester when this course is taught utilizing the changes proposed here.

I/we agree

University Learning Goals**Undergraduate Learning Goals:**Competence in the disciplines
Intellectual and practical skills

Is this course required as part of a teaching credential program, a single subject, or multiple subject waiver program (e.g., Liberal Studies, Biology) or other school personnel preparation program (e.g., School of Nursing)?

No

GE Course and GE Goal(s)

Is this a General Education (GE) course or is it being considered for GE?

No

Please attach any additional files not requested above:

CSC177_Syllabus_v09112019_final.docx

Reviewer Comments:

Nikrouz Faroughi (faroughi) (Wed, 01 May 2019 00:09:43 GMT):Rollback: The course may be offered fall and/or spring.

Ted Krovetz (tdk) (Wed, 01 May 2019 22:14:05 GMT):Rollback: To update semesters offered.

Troy Topping (troy.topping) (Fri, 30 Aug 2019 17:05:54 GMT):Rollback: 1. Please refer to email communication from AC.

Key: 1059