**WMU - Internal Curriculum Form - New**

**CEAS-18-35-CS**

**Department Contact Information:**

- **Start Date:** 09-FEB-2018
- **College:** A
- **Department:** CS
- **Initiator Name:** Steve Carr
- **Department Email:** steve.carr@wmich.edu
- **Proposed Effective Term:** 201940

**Does Course Need General Education Approval?**

- N

**Will Course Be Used in Teacher Education?**

- N

**If 5000 Level Course, Prerequisites Apply To:**

- G

New Course CS 6100

New course selected: This new course is not seeking approval as a general education course.

1. Proposed course prefix and number: CS 6100

2. Proposed credit hours:

3

3. Proposed course title:

Advanced Storage, Retrieval and Processing of Big Data

4. Proposed course prerequisites:

CS 3100

5. Proposed course corequisites:

none

6. Proposed course prerequisites that may be taken concurrently (before or at the same time):

none

7. Minimum grade for prerequisites (default grades are D for Undergrad and C for Grad):

C

8. Major and/or minor restrictions:

Not Applicable

9. List all the four-digit major and/or minor codes (from Banner) that are to be included or excluded:

none

10. Classification restrictions:

Not Applicable

11. List all the classifications (freshman, sophomore, junior, senior) that are to be included or excluded:

none

12. Level restriction:

Exclude

13. List the level (undergraduate, graduate) that is to be included or excluded.

UG

14. Do prerequisites and corequisites for 5000-level courses apply to undergraduates, graduates, or both?

Not Applicable

15. Is this a multi-topic course?

No

16. Proposed course title to be entered in Banner:

Adv Stor, Ret, Pro of Big Data

17. Is this course repeatable for credit?

No
18. Is this course mandatory credit/no credit?  
   No

19. Select class type:  
   Lecture

20. How many contact hours per week for this course?  
   3

A. Please choose Yes or No to indicate if this class is a Teacher Education class:  
   No

B. Please choose the applicable class level:  
   Graduate

C. Please choose Yes or No to indicate if this class is a General Education class:  
   No

D. Explain briefly and clearly the proposed improvement.  
   Add a new course on advanced handling of big data to support the new M.S. in Data Science.

E. Rationale. Give your reason(s) for the proposed improvement. (If your proposal includes prerequisites, justify those, too.)  
   We currently do not address big data at the advanced level. Students in an M.S. program need to understand handling big data at an advanced level to prepare for research or employment.

F. List the student 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.  
   After completing the course a student will be able to:
   1) Evaluate the resource needed to process big data at an advanced level
   2) Evaluate the application of GPU, multi-core and distributed processing to

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Department Curriculum Chair approver: Li Yang  
Date: 28-FEB-2018

Comment:

Chair approver:  
Date: 28-FEB-2018

Comment:

* Curriculum Committee Approval

- Approve
- Deny

Reason for denial:

Comment:

Enter Proposal number only if approved:

Proposal Number:

[Complete, Save & Close, Cancel]

Attachments

[Attach File]
CS 6100 Catalog Description

This course provides the student with an advanced understanding of the issues involved in dealing with Big Data. It prepares the student for advanced handling of extremely large data sets, accessing the data, reduction of the data into a manageable size and processing the results. Students will reduce Big Data sets, use and develop R packages and other code to analyze the data and produce graphics to explore and explain the data. This course will be very small team project oriented.