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| For Academic Affairs and Research Use Only |
| Proposal Number |  |
| CIP Code:  |  |
| Degree Code: |  |

**Program Modification Form**

**[ ] Undergraduate Curriculum Council**

**[X] Graduate Council**

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| --- |
| **Modification Type: [ ]Admissions, [ ]Curricular Sequence, or [X]Other**  |

Signed paper copies of proposals submitted for consideration are no longer required. Please type approver name and enter date of approval.

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| Hai Jiang | 10/23/2021 |

**Department Curriculum Committee Chair** |

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| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Enter date |

**COPE Chair (if applicable)** |
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| Christos Grecos | 10/28/2021 |

**Department Chair**  |

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**Head of Unit (if applicable)**   |
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| Brandon A. Kemp | 11/3/2021 |

**College Curriculum Committee Chair** |

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**Undergraduate Curriculum Council Chair** |
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| Abhijit Bhattacharyya | 11/5/2021 |

**College Dean** |

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**Graduate Curriculum Committee Chair** |
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**General Education Committee Chair (if applicable)**   |

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**Vice Chancellor for Academic Affairs** |

1. **Contact Person** (Name, Email Address, Phone Number)

Hai Jiang, hjiang@astate.edu, 8164

1. **Proposed Change** (for undergraduate curricular changes please provide an 8-semester plan (appendix A), if applicable)

Elimination of a redundant Systems course requirement with an elective option and clarification for the elective courses in High Performance Computing emphasis in Computer Science master’s degree.

1. **Effective Date**

1/1/2021

1. **Justification –** *Please provide details as to why this change is necessary.*

Of the four Core course options, three (CS 6213, CS 6243, and CS 6253) are also Systems courses. The change here is to provide the student with an elective option to replace the redundant Systems course requirement.

In addition, this modification will clarify previous changes in electives for High Performance Computing emphasis after the last curriculum update (2019G\_ECS08\_APPROVED\_BC\_Computer-Science-Master-emphasis-curriculum-updates). This will make clear that a course cannot be counted twice, as both required and elective, for the emphasis.

**Bulletin Changes**

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| **Instructions**  |
| **Please visit** [**http://www.astate.edu/a/registrar/students/bulletins/index.dot**](http://www.astate.edu/a/registrar/students/bulletins/index.dot) **and select the most recent version of the bulletin. Copy and paste all bulletin pages this proposal affects below. Please include a before (with changed areas highlighted) and after of all affected sections.** **\*Please note: Courses are often listed in multiple sections of the bulletin. To ensure that all affected sections have been located, please search the bulletin (ctrl+F) for the appropriate courses before submission of this form.**  |

*2021-2022 Graduate Bulletin*

Page 181 Before:

**Computer Science**

**Master of Science**

**Emphasis in High Performance Computing**

|  |  |
| --- | --- |
| **University Requirements:** |  |
|  See Graduate Degree Policies for additional information (p. 47) |  |
| **Program Requirements:**   Minimum of eighteen hours of 6000 level Computer Science and approved Mathematics and/or  Statistics coursework inclusive of thesis. Students completing the MS non-thesis option must pass a comprehensive exam in the last semester of study. | **Sem. Hrs.** |
|  **Theory:**   CS 5133, Compiler **OR** CS 5723, Automata Theory | 3 |
|  **~~Systems:~~** ~~CS 5313, Computer Networks~~ | ~~3~~ |
|  **Algorithms:** CS 5713, Analysis of Algorithms  | 3 |
|  **Sub-total** | **~~9~~** 6 |
| **Emphasis Area (High Performance Computing):**   | **Sem. Hrs.** |
|  **Core (select three of the following):**  CS 6213, Parallel Processing  CS 6243, Distributed Systems  CS 6253, Heterogeneous Computing  CS 6263, Cloud Computing | 9 |
|  **Emphasis Elective (select one of the following** or above untaken Core course**):**  CS 5223, Unix Systems Programming CS 6223, Advanced Computer Architecture CS 6233, Operating System Design ~~CS 6263, Cloud Computing~~  | 3 |
|  CS Electives |  ~~6~~ 9 |
|  CS, MATH, and/or STAT Electives,  | 6 |
|  Subject to the prior approval of the Computer Science Curriculum Committee. |  |
| **Sub-total** | **~~24~~** **27** |
| **Total Required Hours:** | **33** |

Page 181 After:

**Computer Science**

**Master of Science**

**Emphasis in High Performance Computing**

|  |  |
| --- | --- |
| **University Requirements:** |  |
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| **Program Requirements:**   Minimum of eighteen hours of 6000 level Computer Science and approved Mathematics and/or  Statistics coursework inclusive of thesis. Students completing the MS non-thesis option must pass a comprehensive exam in the last semester of study. | **Sem. Hrs.** |
|  **Theory:**   CS 5133, Compiler **OR** CS 5723, Automata Theory | 3 |
|  **Algorithms:** CS 5713, Analysis of Algorithms  | 3 |
|  **Sub-total** | 6 |
| **Emphasis Area (High Performance Computing):**   | **Sem. Hrs.** |
|  **Core (select three of the following):**  CS 6213, Parallel Processing  CS 6243, Distributed Systems  CS 6253, Heterogeneous Computing  CS 6263, Cloud Computing | 9 |
|  **Emphasis Elective (select one of the following or above untaken Core course):**  CS 5223, Unix Systems Programming CS 6223, Advanced Computer Architecture CS 6233, Operating System Design | 3 |
|  CS Electives | 9 |
|  CS, MATH, and/or STAT Electives,  | 6 |
|  Subject to the prior approval of the Computer Science Curriculum Committee. |  |
| **Sub-total** | 27 |
| **Total Required Hours:** | **33** |