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

**Program Modification Form**

**[X] Undergraduate Curriculum Council**

**[ ] Graduate Council**

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| --- |
| **Modification Type: [ ]Admissions, [X]Curricular Sequence, or [ ]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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| Paula Ruby | 2/11/2022 |

**Department Curriculum Committee Chair** |

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

**COPE Chair (if applicable)** |
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| --- | --- |
| James Doering | 2/11/2022 |

**Department Chair**  |

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| --- | --- |
| Jason L. Causey | 2/9/2022 |

**Head of Unit (if applicable)**   |
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| John Robertson | 2/14/2022 |

**College Curriculum Committee Chair** |

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

**Undergraduate Curriculum Council Chair** |
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| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Enter date |

**Director of Assessment** *(only for changes impacting assessment)* |

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**Graduate Curriculum Committee Chair** |
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| Jim Washam | 2/15/2022 |

**College Dean** |

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| Alan Utter | 3/14/2022 |

**Vice Chancellor for Academic Affairs** |
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| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Enter date |

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

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

Richard Segall

rsegall@astate.edu

870-972-3989

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

Addition of a domain study option in Business to the B.S. in Data Science and Data Analytics program.
Sponsoring college: Neil Griffin College of Business.

1. **Effective Date**

Fall 2022

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

To provide a domain study for students interested in practicing data analytics in business or industry, as a part of the B.S. in Data Science and Data Analytics, in the Data Analytics emphasis.

**Bulletin Changes**

|  |
| --- |
| **Instructions**  |
| **Please visit** **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.**  |

**After Page 194, following the heading “Domains in Data Science and Data Analytics” section and before the sub-heading “Domain in Computer Science”**

**BEFORE:**

**Domains in Data Science and Data Analytics**

**Domain in Computer Science**

**Emphasis in Data Science**

|  |  |
| --- | --- |
| **Required Courses:** | **Sem. Hrs.**  |
| CS 2114, Structured Programming | 4 |
| CS 2124, 00P and Fundamental Data Structures | 4 |
| CS 3113, Algorithms and Advanced Data Structures | 3 |
| CS 3233, Operating Systems | 3 |
| **Sub-total** | **14** |
| **Electives:** | **Sem. Hrs.**  |
| **Select two of the following:**CS 3123, Programming LanguagesCS 3613, Web Application DevelopmentCS 4213, Distributed ComputingCS 4223, UNIX Systems ProgrammingCS 4433, Artificial IntelligenceCS 4713, Analysis of Algorithms | 6 |
| Electives | 1-2 |
| **Sub-total** | 7-8 |
| **Total Required Hours:** | **21-22** |

**AFTER:**

**Domains in Data Science and Data Analytics**

**Domain in Business**

**Emphasis in Data Analytics**

|  |  |
| --- | --- |
| **Required Courses** | **Sem. Hrs.** |
| ACCT 2023 Fundamental Accounting Concepts | 3 |
| ECON 2333 Economic Issues and Concepts | 3 |
| EGRM 3013 Project Management and Practice | 3 |
| FIN 3713 Business Finance | 3 |
| FIN 3723 Financial Analytics and Modeling **OR** MKTG 4213 Marketing Analytics | 3 |
| ISBA 3413 Big Data for Business | 3 |
| ISBA 3423 Data Visualization for Business | 3 |
| ISBA 3663 Data Mining for Business | 3 |
| MGMT 3123 Principles of Management | 3 |
| MKTG 3013 Marketing | 3 |
| STAT 4473 Applied Statistics II | 3 |
| **Total Required Hours:** | **33** |

**Domain in Computer Science**

**Emphasis in Data Science**

|  |  |
| --- | --- |
| **Required Courses:** | **Sem. Hrs.**  |
| CS 2114, Structured Programming | 4 |
| CS 2124, 00P and Fundamental Data Structures | 4 |
| CS 3113, Algorithms and Advanced Data Structures | 3 |
| CS 3233, Operating Systems | 3 |
| **Sub-total** | **14** |
| **Electives:** | **Sem. Hrs.**  |
| **Select two of the following:**CS 3123, Programming LanguagesCS 3613, Web Application DevelopmentCS 4213, Distributed ComputingCS 4223, UNIX Systems ProgrammingCS 4433, Artificial IntelligenceCS 4713, Analysis of Algorithms | 6 |
| Electives | 1-2 |
| **Sub-total** | 7-8 |
| **Total Required Hours:** | **21-22** |

**Appendix A, 8-Semester Plan**

(**Referenced in #2** - **Undergraduate Proposals Only)**

*Instructions: Please identify new courses in italics*.

**Eight-Semester Degree Plan**

**Bachelor of Science in Data Science and Data Analytics**

**2022-2023**

**Data Science Track: Business**

|  |
| --- |
|  **Arkansas State University-Jonesboro** **Degree: Bachelor of Science in Data Science and Data Analytics** **Major: Data Analytics, Business Domain** **Year: 2022-2023** |
| Students requiring developmental course work based on low entrance exam scores (ACT, SAT, ASSET, COMPASS) may not be able to complete this program of study in eight (8) semesters. Developmental courses do not count toward total degree hours. **Students having completed college level courses prior to enrollment will be assisted by their advisor in making appropriate substitutions. In most cases, general education courses may be interchanged between semesters.** A minimum of 45 hours of upper division credit (3000-4000 level) is required for this degree. |
| **Year 1** |  | **Year 1** |
| **Fall Semester** |  | **Spring Semester** |
| **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |  | **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |
| ENG 1003 | Composition I | 3 | X |  | ENG 1013 | Comp II | 3 | X |
| MATH 1023 | College Algebra | 3 | x |  | COMS 1203 | Oral Communication | 3 | X |
|  CS 1093 or any otherFYE courser FYE | Making Connections Computer Science, orany other Making Connections (FYE) course | 2-3 |  |  | MATH 2143MATH 2194 | Choose one: Business CalculusSurvey of Calculus | 3-4 |  |
| CS 1013 | Intro to Computers | 3 |  |  | CS 1114 | Concepts of Programming | 4 |  |
| HIST 2763HIST 2773POSC 2103 | Choose oneUS History to 1876US History since 1876Intro to US Government | 3 | X |  | Gen Ed Social Science\*GEO 2613HIST 1013HIST 1023SOC 2213PSY 2013POSC 1003CMAC 1003 | Choose one: Intro to GeographyWorld Civ. to 1660World Civ. since 1660Intro to SociologyIntro to PsychologyIntro to PoliticsIntro to Mass Communication | 3 | X |
| **Total Hours** |  | 14-15 |  |  | **Total Hours** |  | 16-17 |  |
| **Year 2** |  | **Year 2** |
| **Fall Semester** |  | **Spring Semester** |
| **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |  | **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |
| Life Science Gen Ed.BIOL 1003/1001BIOL 1033/1001BIOL 1063/1001BIO 1503/1501BIO 2013/2011BIO 2103/2101BIO 2203/2001 | Choose one:Biological Science/LabBiology of Sex/LabPeople & Environment/LabBiology of Plants/LabBiology of the Cell/LabMicrobiology for Nursing and Allied Health/LabHuman Anatomy & Physiology/Lab | 4 | X |  | Gen Ed Social Science\*GEO 2613HIST 1013HIST 1023SOC 2213PSY 2013POSC 1003CMAC 1003 | Choose one: Intro to GeographyWorld Civ. to 1660World Civ. since 1660Intro to SociologyIntro to PsychologyIntro to PoliticsIntro to Mass Communication | 3 | X |
| AGST 3503 | Geospatial Data Applications (DSDA 101) | 3 |  |  | Physical Science Gen. Ed.CHEM 1013/1011CHEM 1043/1041GEOL 1003/1001PHSC 1014PHSC 1203/1201PHYS 1103/1101PHYS 2034PHYS 2054 | Choose one: General Chemistry I/LabFund. Concepts of Chemistry/LabEnvironmental Geology/LabEnergy and the Environment Physical Science/LabIntro to Space Science/LabUniversity Physics IGeneral Physics I | 4 | X |
| Fine Arts:ART 2503MUS 2503TEHA 2503 | Choose one:Fine Arts – Visual Fine Arts – Music Fine Arts – Theater | 3 | X |  | DATA 2004 | Programming for Data Analysis | 4 |  |
| STAT 3233 | Applied Stat 1 | 3 |  |  | ACCT 2023 | Fundamental Accounting Concepts | 3 |  |
| PHIL 1103 | Intro to Philosophy (Humanities Elective) | 3 | X |  | ECON 2333 | Economic Issues and Concepts | 3 |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| **Total Hours** |  | 16 |  |  | **Total Hours** |  | 17 |  |
| **Year 3** |  | **Year 3** |
| **Fall Semester** |  | **Spring Semester** |
| **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |  | **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |
| DATA 3003 | Applied Database and Data Mining | 3 |  |  | STAT 3243 | Regression Analysis and ANOVA | 3 |  |
| STAT 3133 | Applied Categorial Data Analysis  | 3 |  |  | AGST 3543 | Fundamentals of GIS/GPS | 3 |  |
| DATA 3011 | Seminar | 3 |  |  | MKTG 3013 | Marketing | 3 |  |
| FIN 3713 | Business Finance | 3 |  |  | ISBA 3413 | Big Data for Business | 3 |  |
| ISBA 3663 | Data Mining for Business | 3 |  |  | ISBA 3423 | Data Visualization for Business | 3 |  |
| **Total Hours** |  | 15 |  |  | **Total Hours** |  | 15 |  |
| **Year 4** |  | **Year 4** |
| **Fall Semester** |  | **Spring Semester** |
| **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |  | **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |
| DATA 4003 | Fundamental Concepts in Design of Experiments | 3 |  |  | DATA 4013 | Capstone Design | 3 |  |
| POSC 3003STAT 4483AGEC 4253 | Choose one: Intro to Political AnalysisStatistical Methods using RAgricultural & Environmental Data Science | 3 |  |  | PHIL 3723 | Computers, Ethics, and Society | 3 |  |
| DATA 3023 | Data Visualization and Data Communication | 3 |  |  | DATA 3031 | Internship | 1 |  |
| MGMT 3123 | Principles of Management | 3 |  |  | STAT 4473 | Applied Statistics II | 3 |  |
| FIN 3723MKTG 4213 | Choose one:Financial Analysis and ModelingMarketing Analytics | 3 |  |  | EGRM 3013 | Project Management and Practice | 3 |  |
| **Total Hours** |  | 15 |  |  | **Total Hours** |  | 13 |  |
| **Total Jr/Sr Hours 57 Total Degree Hours 121** |
| **Graduation Requirements:** |