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

**Program Modification Form**

**[X] Undergraduate Curriculum Council**

**[ ] Graduate Council**

|  |
| --- |
| **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.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | Paula Ruby | 2/11/2022 |   **Department Curriculum Committee Chair** | |  |  | | --- | --- | | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Enter date |   **COPE Chair (if applicable)** |
| |  |  | | --- | --- | | James Doering | 2/11/2022 |   **Department Chair** | |  |  | | --- | --- | | Jason L. Causey | 2/9/2022 |   **Head of Unit (if applicable)** |
| |  |  | | --- | --- | | John Robertson | 2/14/2022 |   **College Curriculum Committee Chair** | |  |  | | --- | --- | | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Enter date |   **Undergraduate Curriculum Council Chair** |
| |  |  | | --- | --- | | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Enter date |   **Director of Assessment** *(only for changes impacting assessment)* | |  |  | | --- | --- | | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Enter date |   **Graduate Curriculum Committee Chair** |
| |  |  | | --- | --- | | Jim Washam | 2/15/2022 |   **College Dean** | |  |  | | --- | --- | | Alan Utter | 3/14/2022 |   **Vice Chancellor for Academic Affairs** |
| |  |  | | --- | --- | | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Enter date |   **General Education Committee Chair (if applicable)** |  |

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

Richard Segall

[rsegall@astate.edu](mailto: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**](about:blank) **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 Languages  CS 3613, Web Application Development  CS 4213, Distributed Computing  CS 4223, UNIX Systems Programming  CS 4433, Artificial Intelligence  CS 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 Languages  CS 3613, Web Application Development  CS 4213, Distributed Computing  CS 4223, UNIX Systems Programming  CS 4433, Artificial Intelligence  CS 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 other  FYE course  r  FYE | Making Connections Computer Science, or  any other Making Connections (FYE) course | 2-3 |  |  | MATH 2143  MATH 2194 | Choose one:  Business Calculus  Survey of Calculus | 3-4 |  |
| CS 1013 | Intro to Computers | 3 |  |  | CS 1114 | Concepts of Programming | 4 |  |
| HIST 2763  HIST 2773  POSC 2103 | Choose one  US History to 1876  US History since 1876  Intro to US Government | 3 | X |  | Gen Ed Social Science\*  GEO 2613  HIST 1013  HIST 1023  SOC 2213  PSY 2013  POSC 1003  CMAC 1003 | Choose one:  Intro to Geography  World Civ. to 1660  World Civ. since 1660  Intro to Sociology  Intro to Psychology  Intro to Politics  Intro 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 1003/1001  BIOL 1033/1001  BIOL 1063/1001  BIO 1503/1501  BIO 2013/2011  BIO 2103/2101  BIO 2203/2001 | Choose one:  Biological Science/Lab  Biology of Sex/Lab  People & Environment/Lab  Biology of Plants/Lab  Biology of the Cell/Lab  Microbiology for Nursing and Allied Health/Lab  Human Anatomy & Physiology/Lab | 4 | X |  | Gen Ed Social Science\*  GEO 2613  HIST 1013  HIST 1023  SOC 2213  PSY 2013  POSC 1003  CMAC 1003 | Choose one:  Intro to Geography  World Civ. to 1660  World Civ. since 1660  Intro to Sociology  Intro to Psychology  Intro to Politics  Intro to Mass Communication | 3 | X |
| AGST 3503 | Geospatial Data Applications (DSDA 101) | 3 |  |  | Physical Science Gen. Ed.  CHEM 1013/1011  CHEM 1043/1041  GEOL 1003/1001  PHSC 1014  PHSC 1203/1201  PHYS 1103/1101  PHYS 2034  PHYS 2054 | Choose one:  General Chemistry I/Lab  Fund. Concepts of Chemistry/Lab  Environmental Geology/Lab  Energy and the Environment  Physical Science/Lab  Intro to Space Science/Lab  University Physics I  General Physics I | 4 | X |
| Fine Arts:  ART 2503  MUS 2503  TEHA 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 3003  STAT 4483  AGEC 4253 | Choose one:  Intro to Political Analysis  Statistical Methods using R  Agricultural & 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 3723  MKTG 4213 | Choose one:  Financial Analysis and Modeling  Marketing 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:** | | | | | | | | |