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| For Academic Affairs and Research Use Only | |
| Proposal Number | BU06 |
| CIP Code: |  |
| Degree Code: |  |

**New or Modified Course Proposal Form**

**[ XX] Undergraduate Curriculum Council**

**[] Graduate Council**

|  |
| --- |
| **[XX]New Course, [ ]Experimental Course (1-time offering), or [ ]Modified Course (Check one box)** |

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

|  |  |
| --- | --- |
| Dr. Steve Muzatko December 9, 2022  **Department Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **COPE Chair (if applicable)** |
| James Doering December 9, 2022 **Department Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Head of Unit (if applicable)** |
| Philip Tew 12/12/2022  **College Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Undergraduate Curriculum Council Chair** |
| Mary Elizabeth Spence 12/15/2022 **Office of Assessment (new courses only)** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Graduate Curriculum Committee Chair** |
| John Robertson 1/4/2023 **College Dean** | Len Frey 2/22/2023  **Vice Chancellor for Academic Affairs** |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **General Education Committee Chair (if applicable)** |  |

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

Dr. Steve Muzatko, [smuzatko@astate.edu](mailto:smuzatko@astate.edu), (870) 972-3988

1. **Proposed starting term and Bulletin year for new course or modification to take effect**

Fall 2023

**Instructions:**

*Please complete all sections unless otherwise noted. For course modifications, sections with a “Modification requested?” prompt need not be completed if the answer is “No.”*

|  |  |  |
| --- | --- | --- |
|  | **Current (Course Modifications Only)** | **Proposed (New or Modified)**  *(Indicate “N/A” if no modification)* |
| **Prefix** |  | **ACCT** |
| **Number\*** |  | **4723** |
| **Title**  (include a short title that’s 30 characters or fewer) |  | **Strategic Accounting Technologies II**  **(Short title for Banner: Strategic ACCT**  **Technologies II)** |
| **Description\*\*** |  | Technical data science skills for working with accounting data. The concepts of data analytics automation and visualization are taught within the context of accounting data domains and using more advanced general-purpose tools and technologies. Spring.  Prerequisite ACCT 2713 with a grade of C or better. |

***\**** Confirm with the Registrar’s Office that number chosen has not been used before and is available for use. For variable credit courses, indicate variable range. *Proposed number for experimental course is 9*.

\*\*Forty words or fewer (excepting prerequisites and other restrictions) as it should appear in the Bulletin.

1. **Proposed prerequisites and major restrictions** **[Modification requested? Yes/No]**

(Indicate all prerequisites. If this course is restricted to a specific major, which major. If a student does not have the prerequisites or does not have the appropriate major, the student will not be allowed to register).

1. **Yes / No** Are there any prerequisites? YES
   1. If yes, which ones?

ACCT 2713 Accounting Analytics I with a grade of C or better.

* 1. Why or why not?

ACCT 2713 Accounting Analytics I is a Foundational course providing needed background to take and successfully complete ACCT 4723 Strategic Accounting Technologies II

1. **Yes / No** Is this course restricted to a specific major? NO
   1. If yes, which major? Enter text...
2. **Proposed course frequency [Modification requested? Yes/No]**

(e.g. Fall, Spring, Summer; if irregularly offered, please indicate, “irregular.”) *Not applicable to Graduate courses.*

SPRING

1. **Proposed course type [Modification requested? Yes/No]**

Will this course be lecture only, lab only, lecture and lab, activity (e.g., physical education), dissertation/thesis, capstone, independent study, internship/practicum, seminar, special topics, or studio? Please choose one.

Lecture and lab

1. **Proposed grade type [Modification requested? Yes/No]**

What is the grade type (i.e. standard letter, credit/no credit, pass/fail, no grade, developmental, or other [please elaborate])?

Standard Letter

1. **Yes / No** Is this course dual-listed (undergraduate/graduate)? Yes
2. **Yes / No** Is this course cross-listed? No.

*(If it is, all course entries must be identical including course descriptions. Submit appropriate documentation for requested changes. It is important to check the course description of an existing course when adding a new cross-listed course.)*

**a.** – If yes, please list the prefix and course number of the cross-listed course.

Enter text...

**b.** – **Yes / No** Can the cross-listed course be used to satisfy the prerequisite or degree requirements this course satisfies?

Enter text...

1. **Yes / No** Is this course in support of a new program? No

a. If yes, what program?

Enter text...

1. **Yes / No** Will this course be a one-to-one equivalent to a deleted course or previous version of this course (please check with the Registrar if unsure)? No

a. If yes, which course?

Enter text...

**Course Details**

1. **Proposed outline** **[Modification requested? Yes/No]**

(The course outline should be topical by weeks and should be sufficient in detail to allow for judgment of the content of the course.)

COURSE OUTLINE

BASED ON 15 WEEK SEMESTER, CLASS MEETING TWICE EACH WEEK

**WEEK                   CLASS NUMBER                     TOPIC**

      1                                        1                      Alteryx Designer: Setup & Introduction

      1                                        2                      Alteryx: Fundamentals & Data Types

      2                                        3                      Alteryx: Fundamentals & Data Types

      2                                        4                      Alteryx: ‘Input/Output’ Tools

      3                                        5                      Alteryx: ‘Input/Output’ Tools

      3                                        6                      Alteryx: ‘Input/Output’ Tools

      4                                        7                      Alteryx: ‘Join’ Tools

      4                                        8                      Alteryx: ‘Join’ Tools

      5                                        9                      Alteryx: ‘Join’ Tools

      5                                        10                    Alteryx: ‘Preparation’ Tools

      6                                        11                    Alteryx: ‘Preparation’ Tools

      6                                        12                    Alteryx: ‘Preparation’ Tools

      7                                        13                    Alteryx: ‘Transform’ Tools

      7                                        14                    Alteryx: ‘Transform’ Tools

      8                                        15                    Alteryx: ‘Transform’ Tools

      8                                        16                    Alteryx: ‘Parse’ Tools

      9                                        17                    Alteryx: ‘Parse’ Tools

      9                                        18                    Alteryx Micro-Credential Exam

      10                                      19                    Alteryx: ‘Reporting’ Tools

      10                                      20                    Alteryx: ‘Reporting’ Tools

      11                                      21                    Alteryx: ‘Reporting’ Tools

      11                                      22                    Alteryx: ‘Reporting’ Tools

      12                                      23`                  Alteryx: ‘Data investigation’ Tools

      12                                      24                    Alteryx: ‘Data investigation’ Tools

      13                                      25                    Alteryx: ‘Data investigation’ Tools

      13                                      26                    Python review

      14                                      27                    Python review

      14                                      28                    Python tool in Alteryx

      15                                      29                    Python tool in Alteryx

      15                                      30                    Accounting data analysis project using Alteryx

1. **Proposed special features** **[Modification requested? Yes/No]**

(e.g. labs, exhibits, site visitations, etc.)

NONE

1. **Department staffing and classroom/lab resources**

One Faculty, Computer Lab

1. Will this require additional faculty, supplies, etc.? No.

Enter text...

1. **Yes / No** Does this course require course fees? No.

*If yes: please attach the New Program Tuition and Fees form, which is available from the UCC website.*

**Justification**

**Modification Justification (Course Modifications Only)**

1. Justification for Modification(s)

Enter text...

**New Course Justification (New Courses Only)**

1. Justification for course. Must include:
   1. Academic rationale and goals for the course (skills or level of knowledge students can be expected to attain)

* **Polimeni and Burke (2021):** “*New technological innovations must be integrated at both the undergraduate and graduate levels. Although many accounting departments may have started a piecemeal implementation of these topics, a complete curriculum review and restructuring is likely to be in order.*”
* **The Tax Adviser (2022):** “*Employers continue to emphasize a need for accounting graduates with an expert-level ability to analyze and interpret large amounts of data using current and emerging technologies.*”
* **IMA Management Accounting Quarterly (2021):** “*Grant Thorton LLP Grant Thornton LLP considers auditors’ proficiency with Excel and Access a minimum and expects experience with at least some of the following:*

*• For automation: Alteryx, Automation Anywhere, Power Apps, Power Automate;*

*• For analysis: R, Python, Power Query, other analytic packages; and*

*• For visualization: Tableau, Power BI, and other visualization engines*”

* **The IMA Management Accountant Competency Framework (2018)** indicates that “*accountants should be able to not only interpret and use statistics, but also create models, and generate results themselves. The IMA Framework also identifies specific technology tools including spreadsheets, SQL, Python, and R.*”
* **Dow, et al. (2021):** “*Alteryx provides a tool for Descriptive, Diagnostic, Predictive, and Prescriptive Analytics; spatial analysis; and R and Python code embedded analysis.*”
* **Zhang, et al.** **(2021):** Talk about how Alteryx is a great ETL tool that accountants need to learn.
* **Tech Target (2021):** Talks about how accounting giant, BDO LLP, boosted efficiency with Alteryx automation saved more than 100,000 work hours by automating repetitive tasks.
* **Institute of Chartered Accountants of England & Wales (2022):** “*Python is the computer language of choice for accountants … From an accountancy perspective, Python is most useful when working with data. It can essentially read any type, both structured and unstructured. It has powerful capabilities in data importation and manipulation – tasks like merging and recoding – as well as handling large amounts. Python skills have become increasingly important to support data analytics work*.”
* **Towards Data Science (2022):** Talks about how accounting tasks can be automated with Python.
* **Strategic Finance (2022):** “*Alteryx is a viable option for accounting professionals who lack the time, desire, or need to learn Python or R* … *AI and ML present exciting opportunities to transform the accounting profession for the better … Python is the most popular language for ML work, given its flexibility and data-science arsenal.*”
* **Vasarhelyi and Rozario (2018):** “*RPA has already garnered interest from public accounting firms, particularly with respect to taxation, advisory, and assurance services. For example, a significant portion of tax activities, such as the calculation of book-tax differences and the preparation of tax returns, has been successfully automated by RPA software robots.*”
* **Accounting Today (2021):** Robotic process automation has become a necessary technology for many accounting firms that are trying to achieve more efficiency as the staff becomes harder to find during the ongoing pandemic.
* **Alteryx Embedded Python (2022):** <https://help.alteryx.com/20221/designer/alteryx-embedded-python>
* **Official statement from Anna Howard, CPA, Senior Manager of Academic Initiatives *(*ThisWayToCPA.com, 2022a*):*** “*Emerging technology is changing the nature of the accounting profession leading to less clicking, formatting, ticking and tying. Preparing accounting students for this evolving workplace requires a deeper understanding of data, technology and the processes associated with managing technology. The experiential environment of RPA development combined with the problem-solving challenges inherent to develop automation solutions challenged students in ways that were meaningful to them.*”

The above reasons have necessitated the creation of SAT II, which includes data analytics at an advanced level on accounting datasets using the Alteryx Analytics Automation tool (along with Python code embedded analysis) with a focus on ETL processes and RPA.

Goals for the course (skill or level of knowledge students can be expected to attain):

Students will: Study Alteryx and gain knowledge of Setup and design; fundamental data types; input/output tools; join tools, preparation tools, transform tools, parse tools; reporting tools, and data investigation tools. Study and review Python and learn how to use Python in Alteryx; and perform a data analysis project using Alteryx

1. How does the course fit with the mission of the department? If course is mandated by an accrediting or certifying agency, include the directive.

The course fits in directly with the mission of the Accounting Department and is not mandated by an accrediting or certifying agency.

1. Student population served.

Undergraduate students at the Sophomore level

1. Rationale for the level of the course (lower, upper, or graduate).

This course is the fourth course in a four course data analytics sequence. Upper level/graduate is appropriate for this course because this course represents the culmination of all learned in the three previous data analytics course.

**Assessment**

**Assessment Plan Modifications (Course Modifications Only)**

1. **Yes / No** Do the proposed modifications result in a change to the assessment plan? No

*If yes, please complete the Assessment section of the proposal*

**Relationship with Current Program-Level Assessment Process (Course modifications skip this section unless the answer to #18 is “Yes”)**

1. What is/are the intended program-level learning outcome/s for students enrolled in this course? Where will this course fit into an already existing program assessment process?

Outcome SLO-1: Demonstrate the ability to communicate accounting information effectively in writing.

Outcome SLO-2: Graduates of the undergraduate Accounting program at the NGCoB will be able to apply technology as a decision tool in the analysis and identification of solutions to accounting issues.

SLO-3: Think critically about accounting issues and topics

Where: This new course will reinforce outcome: SLO-1, SLO-2, and SLO 3 for students.

1. Considering the indicated program-level learning outcome/s (from question #19), please fill out the following table to show how and where this course fits into the program’s continuous improvement assessment process.

*For further assistance, please see the ‘Expanded Instructions’ document available on the UCC - Forms website for guidance, or contact the Office of Assessment at 870-972-2989.*

|  |  |
| --- | --- |
| **Program-Level Outcome 1 (from question #19)** | SLO-1 Demonstrate the ability to communicate accounting information effectively in writing. |
| Assessment Measure | Assessed in Acct 4053 Auditing  Direct - Case assignment focusing on Student Writing Skills.  Indirect – Assessment Office Survey - The BS Accounting Assessment Leader will contact the Assessment Office for the BS Accounting students survey responses from the Leaving the Den exit survey. Data will be provided annually but the Accounting Faculty are responsible for determining how they will utilize the data. |
| Assessment  Timetable | Once every three years beginning fall 2022 |
| Who is responsible for assessing and reporting on the results? | Accounting faculty and Department Chair |
|  |  |

*(Repeat if this new course will support additional program-level outcomes)*

|  |  |
| --- | --- |
| **Program-Level Outcome 2 (from question #19)** | SLO-2 **Graduates of the undergraduate Accounting program at the NGCoB will be able to apply technology as a decision tool in the analysis and identification of solutions to accounting issues.** |
| Assessment Measure | Assessed in Acct 4183 Accounting Analytics II  Direct - With rubric.  Indirect – Assessment Office Survey - The BS Accounting Assessment Leader will contact the Assessment Office for the BS Accounting students survey responses from the Leaving the Den exit survey. Data will be provided annually but the Accounting Faculty are responsible for determining how they will utilize the data. |
| Assessment  Timetable | Once every three years beginning spring 2022 |
| Who is responsible for assessing and reporting on the results? | Accounting faculty and Department Chair |
|  |  |

*(Repeat if this new course will support additional program-level outcomes)*

|  |  |
| --- | --- |
| **Program-Level Outcome 3 (from question #19)** | SLO-3 Think critically about accounting issues and topics |
| Assessment Measure | Assessed in Acct 4023 Advanced Accounting  Direct - Case assignment focusing on student Critical Thinking abilities. Will need rubric by Spring 2022  Indirect – Assessment Office Survey - The BS Accounting Assessment Leader will contact the Assessment Office for the BS Accounting students survey responses from the Leaving the Den exit survey. Data will be provided annually but the Accounting Faculty are responsible for determining how they will utilize the data. |
| Assessment  Timetable | Once every three years beginning spring 2022 |
| Who is responsible for assessing and reporting on the results? | Accounting faculty and Department Chair |
|  |  |

*(Repeat if this new course will support additional program-level outcomes)*

**Course-Level Outcomes**

1. What are the course-level outcomes for students enrolled in this course and the associated assessment measures?

|  |  |
| --- | --- |
| **Outcome 1** | By successfully completing this course, students will be able to:  Frame accounting problems in ways that can be answered through data preparation and analysis. |
| Which learning activities are responsible for this outcome? | Classroom Lectures, Practice Problems, homework |
| Assessment Measure | Direct measures will be obtained through class examinations and indirect measure by completion of the B. S. in Accounting |

*(Repeat if needed for additional outcomes)*

|  |  |
| --- | --- |
| **Outcome 2** | By successfully completing this course, students will be able to:  Develop an introductory to intermediate level expertise with the Alteryx analytics automation tool. |
| Which learning activities are responsible for this outcome? | Classroom Lectures, Practice Problems, homework |
| Assessment Measure | Direct measures will be obtained through class examinations and indirect measure by completion of the B. S. in Accounting |

*(Repeat if needed for additional outcomes)*

|  |  |
| --- | --- |
| **Outcome 3** | By successfully completing this course, students will be able to:  Develop a working understanding of Python and associated development tools. |
| Which learning activities are responsible for this outcome? | Classroom Lectures, Practice Problems, homework |
| Assessment Measure | Direct measures will be obtained through class examinations and indirect measure by completion of the B. S. in Accounting |

*(Repeat if needed for additional outcomes)*

|  |  |
| --- | --- |
| **Outcome 4** | By successfully completing this course, students will be able to:  Apply Alteryx and Python programming skills for data transformation, analytics, and visualization. |
| Which learning activities are responsible for this outcome? | Classroom Lectures, Practice Problems, homework |
| Assessment Measure | Direct measures will be obtained through class examinations and indirect measure by completion of the B. S. in Accounting |

*(Repeat if needed for additional outcomes)*

|  |  |
| --- | --- |
| **Outcome 5** | By successfully completing this course, students will be able to:  Explain, interpret, and communicate the results from their data work to a technical or non-technical audience effectively. |
| Which learning activities are responsible for this outcome? | Classroom Lectures, Practice Problems, homework |
| Assessment Measure | Direct measures will be obtained through class examinations and indirect measure by completion of the B. S. in Accounting |

*(Repeat if needed for additional outcomes)*

**Bulletin Changes**

|  |
| --- |
| **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.** |

Before: URL for the Accounting BS, 2022-2023. (after on page following)

<https://catalog.astate.edu/preview_program.php?catoid=3&poid=479&returnto=77>

* [ISBA 2033 - Programming Fundamentals](https://catalog.astate.edu/preview_program.php?catoid=3&poid=479&returnto=77) **Sem. Hrs:** **3**
* [ISBA 3533 - Microcomputer Applications II](https://catalog.astate.edu/preview_program.php?catoid=3&poid=479&returnto=77) **Sem. Hrs:** **3**
* [ACCT 3003 - Intermediate Accounting I](https://catalog.astate.edu/preview_program.php?catoid=3&poid=479&returnto=77) **Sem. Hrs:** **3**
* [ACCT 3013 - Intermediate Accounting II](https://catalog.astate.edu/preview_program.php?catoid=3&poid=479&returnto=77) **Sem. Hrs:** **3**
* [ACCT 3053 - Cost Accounting with a Managerial Emphasis](https://catalog.astate.edu/preview_program.php?catoid=3&poid=479&returnto=77) **Sem. Hrs:** **3**
* [ACCT 4013 - Tax Accounting I](https://catalog.astate.edu/preview_program.php?catoid=3&poid=479&returnto=77) **Sem. Hrs:** **3**
* [ACCT 4023 - Advanced Accounting and International Issues](https://catalog.astate.edu/preview_program.php?catoid=3&poid=479&returnto=77) **Sem. Hrs:** **3**
* [ACCT 4033 - Accounting Information Systems](https://catalog.astate.edu/preview_program.php?catoid=3&poid=479&returnto=77) **Sem. Hrs:** **3**
* [ACCT 4053 - Auditing I](https://catalog.astate.edu/preview_program.php?catoid=3&poid=479&returnto=77) **Sem. Hrs:** **3**
* [ACCT 4113 - Tax Accounting II](https://catalog.astate.edu/preview_program.php?catoid=3&poid=479&returnto=77) **Sem. Hrs:** **3**
* [ACCT 4133 - Accounting Statistics](https://catalog.astate.edu/preview_program.php?catoid=3&poid=479&returnto=77) **Sem. Hrs:** **3**
* [ACCT 4123 - Government and Not-For-Profit Accounting](https://catalog.astate.edu/preview_program.php?catoid=3&poid=479&returnto=77) **Sem. Hrs:** **3**
* [ACCT 4183 - Accounting Analytics](https://catalog.astate.edu/preview_program.php?catoid=3&poid=479&returnto=77) **Sem. Hrs:** **3**
* [LAW 4043 - Law of Business Organizations](https://catalog.astate.edu/preview_program.php?catoid=3&poid=479&returnto=77) **Sem. Hrs:** **3**

After: For the 2023-2024 bulletin:

[ISBA 2033 - Programming Fundamentals](https://catalog.astate.edu/preview_program.php?catoid=3&poid=479&returnto=77) **Sem. Hrs:** **3**

* [ISBA 3533 - Microcomputer Applications II](https://catalog.astate.edu/preview_program.php?catoid=3&poid=479&returnto=77) **Sem. Hrs:** **3**
* [ACCT 3003 - Intermediate Accounting I](https://catalog.astate.edu/preview_program.php?catoid=3&poid=479&returnto=77) **Sem. Hrs:** **3**
* [ACCT 3013 - Intermediate Accounting II](https://catalog.astate.edu/preview_program.php?catoid=3&poid=479&returnto=77) **Sem. Hrs:** **3**
* [ACCT 3053 - Cost Accounting with a Managerial Emphasis](https://catalog.astate.edu/preview_program.php?catoid=3&poid=479&returnto=77) **Sem. Hrs:** **3**
* [ACCT 4013 - Tax Accounting I](https://catalog.astate.edu/preview_program.php?catoid=3&poid=479&returnto=77) **Sem. Hrs:** **3**
* [ACCT 4023 - Advanced Accounting and International Issues](https://catalog.astate.edu/preview_program.php?catoid=3&poid=479&returnto=77) **Sem. Hrs:** **3**
* [ACCT 4033 - Accounting Information Systems](https://catalog.astate.edu/preview_program.php?catoid=3&poid=479&returnto=77) **Sem. Hrs:** **3**
* [ACCT 4053 - Auditing I](https://catalog.astate.edu/preview_program.php?catoid=3&poid=479&returnto=77) **Sem. Hrs:** **3**
* [ACCT 4113 - Tax Accounting II](https://catalog.astate.edu/preview_program.php?catoid=3&poid=479&returnto=77) **Sem. Hrs:** **3**
* [ACCT 4133 - Accounting Statistics](https://catalog.astate.edu/preview_program.php?catoid=3&poid=479&returnto=77) **Sem. Hrs:** **3**
* [ACCT 4123 - Government and Not-For-Profit Accounting](https://catalog.astate.edu/preview_program.php?catoid=3&poid=479&returnto=77) **Sem. Hrs:** **3**
* [ACCT 4183 - Accounting Analytics](https://catalog.astate.edu/preview_program.php?catoid=3&poid=479&returnto=77) **Sem. Hrs:** **3**

**ACCT 4723 Strategic Accounting Technologies II**

**Sem Hrs: 3**

Technical data science skills for working with accounting data. The concepts of data analytics automation and visualization are taught within the context of accounting data domains and using more advanced general-purpose tools and technologies. Spring

Prerequisite: ACCT 2713 with a grade of C or better.

* [LAW 4043 - Law of Business Organizations](https://catalog.astate.edu/preview_program.php?catoid=3&poid=479&returnto=77) **Sem. Hrs:** **3**