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

**New or Modified Course Proposal Form**

**[X] Undergraduate Curriculum Council**

**[ ] Graduate Council**

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| **[X]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.

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| Kelly Fish 9/17/2020 **Department Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **COPE Chair (if applicable)** |
| James Doering 9/17/2020 **Department Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Head of Unit (if applicable)** |
| Melodie Philhours 9/24/2020  **College Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Undergraduate Curriculum Council Chair** |
| Mary Elizabeth Spence 9/24/2020 **Office of Assessment (new courses only)** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Graduate Curriculum Committee Chair** |
| Melody Lo 9/24/2020 **College Dean** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Vice Chancellor for Academic Affairs** |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **General Education Committee Chair (if applicable)** |  |

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

Kelly Fish, kfish@astate.edu, 870-972-3986

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

Fall 2021.

**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.”*

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|  | **Current (Course Modifications Only)** | **Proposed (New or Modified)**  *(Indicate “N/A” if no modification)* |
| **Prefix** |  | **CIT** |
| **Number\*** |  | **4633** |
| **Title** |  | **Artificial Intelligence Business Strategies and Applications**  **(AI Business Strategies)** |
| **Description\*\*** |  | The latest developments in Artificial Intelligence (AI) and how they are being applied to create value for businesses. Management of AI projects to enhance the business functions of the firm. AI applications through industry examples, cases and, Python programming. |

***\**** (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 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 Are there any prerequisites?
   1. If yes, which ones?

CIT 3013

* 1. Why or why not?

Students need IS foundational understanding

1. No Is this course restricted to a specific major?
   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.*

Fall

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

*(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. No Is this course in support of a new program?

a. If yes, what program?

Enter text...

1. 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)?

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.)

Week 1: Introduction – AI and Business  
Week 2: Machine Learning Basics  
Week 3: Neural Networks and Deep Learning  
Week 4: Developing Neural Networks with Python  
Week 5: Optimizing Neural Networks with Python  
Week 6: Computer Vision/Developing Computer Vision with Python  
Week 7 Optimizing Computer Vision with Python  
Week 8: Midterm/ Natural Language Processing/ Building a chat-bot with Python  
Week 9: Optimizing a chat-bot with Python  
Week 10: Robotics  
Week 11: AI Strategy – Fertile Areas for Development  
Week 12: AI and Organizations: Building Your AI Team  
Week 13: The Future of AI in Business/ Ethical Considerations  
Week 14: Term Project – Leading an AI Initiative  
Week 15: Term Project - Oral Presentations  
Final Exam: Written Term Project due

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

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

Computer labs and AI software

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

No change

1. Will this require additional faculty, supplies, etc.?

No

1. No Does this course require course fees?

*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:

a. Academic rationale and goals for the course (skills or level of knowledge students can be expected to attain)

Extreme advances in computer processing capacity over the last 5 years has led to an explosion of AI applications across all industries. Business students need to understand how to participate in and lead an AI initiative to create value. The course has the following student learning goals: 1) Students will design AI systems that can be implemented to support a business strategy that will result in competitive advantage. 2) Students will identify the firm’s organizational factors and changes that are crucial for the success of an AI initiative. 3) Students will recognize the social, moral, and legal ramifications of various AI issues. 4) Students will be able to identify, analyze, and create AI solutions to the firm’s operating model. 5) Students will explain and program the fundamental mechanisms of neural networks that solve business problems.

b. 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 helps to update the information system curriculum by allowing students to learn application of fundamental AI concepts that will continue to rapidly advance in the near future.

c. Student population served.

NGCOB students

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

This is upper level because the students need a solid understanding of business competitiveness and the role of the various business functions.

**Assessment**

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

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

*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?

PLO2 - Explain IS problems and solutions and give clear instructions.

PLO3 - Make decisions on how to allocate resources in order to reach organizational goals.

PLO4 - Plan and coordinate IS projects to make the organization run efficiently.

PLO5 - Motivate others so that groups are effective and efficient.

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.*

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| **Program-Level Outcome 2 (from question #19)** | Explain IS problems and solutions and give clear instructions. |
| Assessment Measure | Direct – ISBA 4853, Project Management: scoring rubrics on term projects, cases and exams  Indirect – Survey results from Major Fields Exam |
| Assessment  Timetable | Direct - Fall 2021 and Fall 2023  Indirect – Fall 2021 and Spring 2023 |
| Who is responsible for assessing and reporting on the results? | Direct – Faculty teaching ISBA 4853  Indirect – NGCOB Assessment of Learning Committee |

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

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| **Program-Level Outcome 3 (from question #19)** | Make decisions on how to allocate resources in order to reach organizational goals. |
| Assessment Measure | Direct – ISBA 4663, Enterprise Resource Planning: scoring rubrics on term projects, cases and exams  Indirect – Survey results from Major Fields Exam |
| Assessment  Timetable | Direct - Fall 2021 and Fall 2023  Indirect – Fall 2021 and Spring 2023 |
| Who is responsible for assessing and reporting on the results? | Direct – Faculty teaching ISBA 4663  Indirect – NGCOB Assessment of Learning Committee |

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| **Program-Level Outcome 4 (from question #19)** | Plan and coordinate IS projects to make the organization run efficiently. |
| Assessment Measure | Direct – ISBA 4853 Project Management: scoring rubrics on term projects, cases and exams  Indirect – Survey results from Major Fields Exam |
| Assessment  Timetable | Direct - Fall 2021 and Fall 2023  Indirect – Fall 2021 and Spring 2023 |
| Who is responsible for assessing and reporting on the results? | Direct – Faculty teaching ISBA 4853  Indirect – NGCOB Assessment of Learning Committee |

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| **Program-Level Outcome 5 (from question #19)** | Motivate others so that groups are effective and efficient. |
| Assessment Measure | Direct – ISBA 4853 Project Management: scoring rubrics on term projects, cases and exams  Indirect – Survey results from Major Fields Exam |
| Assessment  Timetable | Direct - Fall 2021 and Fall 2023  Indirect – Fall 2021 and Spring 2023 |
| Who is responsible for assessing and reporting on the results? | Direct – Faculty teaching ISBA 4853  Indirect – NGCOB Assessment of Learning Committee |

**Course-Level Outcomes**

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

*(Repeat if needed for additional outcomes)*

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| **Outcome 1** | Students will design AI systems that can be implemented to support a business strategy that will result in competitive advantage. |
| Which learning activities are responsible for this outcome? | Lectures, computer labs, case studies and term project |
| Assessment Measure | Grades on term project, labs, cases and midterm |

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| **Outcome 2** | Students will identify the firm’s organizational factors and changes that are crucial for the success of an AI initiative. |
| Which learning activities are responsible for this outcome? | Lectures, class discussion and business cases |
| Assessment Measure | Grade on case write-up |

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| **Outcome 3** | Students will recognize the social, moral, and legal ramifications of various AI issues. |
| Which learning activities are responsible for this outcome? | Lectures, class discussion and case study |
| Assessment Measure | Grade on ethics case study write-up |

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| **Outcome 4** | Students will be able to identify, analyze, and create AI solutions to the firm’s operating model. |
| Which learning activities are responsible for this outcome? | Lectures, class discussion and case studies |
| Assessment Measure | Graded term project write-up and oral presentation |

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| **Outcome 5** | Students will explain and program the fundamental mechanisms of neural networks that solve business problems. |
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| Which learning activities are responsible for this outcome? | Computer labs involving neural networks |
| Assessment Measure | Grades on neural network computer lab |

**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.** |

CIT 4623. **Computer Security** Discusses the primary topics of computer security needed by IT professionals in both commercial and military installations. Includes access control, cryptography, continuity planning, physical security, and the overall management of security issues. Pre/Corequisite, CIT 3013. Spring.

**CIT 4633** **Artificial Intelligence Business Strategies and Applications** The latest developments in Artificial Intelligence (AI) and how they are being applied to create value for businesses. Management of AI projects to enhance the business functions of the firm. AI applications through industry examples, cases and, Python programming. Pre/Corequisite, CIT 3013. Fall

CIT 4653. **Automatic Data Capture** Methods, technologies, systems, and standards used in supply chain information systems and e-business for automatically identifying objects, and collecting and transferring data. Technologies such as bar coding, RFID, smart cards, magnetic striping, biometrics, GPS, real time locating, and voice data entry, as well as their business applications are addressed. Pre/Co-requisite, CIT 3013. Prerequisites, CIT 2033, and CIT 2523. Corequisite, CIT 3603. Fall.

Also as shown in pp. 124 and 455 of the Comprehensive bulletin changes for NGCOB CIT curriculum revision file:

