# http://www.ric.edu/webcommunications/images/SealWithText_Small_Black.pngUNDERGRADUATE CURRICULUM COMMITTEE (UCC)PROPOSAL FORM

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| --- | --- | --- |
| A.1. [Course or program](#Proposal) | **CSCI 141 Applications of Artificial Intelligence** |  |
| [Replacing](#Ifapplicable)  |  |
| A. 1b. Academic unit | **School of Business**  |  |
| A.2. [Proposal type](#type) | **Course: creation**  |  |
| A.3. [Originator](#Originator) | **Timothy Henry** | [Home department](#home_dept) | **Computer Science and Information Systems** |
| A.4. [Context and Rationale](#Rationale) Must include additional information listed in smart tip for all [new programs](#type). If **online** course or program, you need to explain what mode(s) you plan to use and why you need that specific delivery.  | Artificial intelligence (AI) is transforming nearly every aspect of business operations and decision-making. As AI continues to permeate various industries, it is crucial for RIC graduates to gain a comprehensive understanding of its applications, implications, and ethical considerations. This course provides students with the necessary knowledge and skills to navigate this transformative technology and prepare them for successful careers in the AI-driven economy.The course dives into the practical applications of AI across various business domains, showing its transformative potential in areas such as healthcare, transportation, marketing, sales, customer relationship management (CRM), supply chain management, finance, human resources, and operations. Students would learn how AI is being used to personalize customer experiences, predict customer churn, automate tasks, optimize processes, and gain valuable insights from data. By exploring these real-world applications, students would develop a critical understanding of the benefits and limitations of AI in specific business scenarios. Additionally, they would gain insights into emerging AI trends and their potential impact on future business strategies.This this course also serves to foster ethical considerations and responsible AI use. The ethical implications of AI, including bias and transparency, are increasingly crucial considerations for businesses deploying these technologies. By incorporating discussions on ethical and legal frameworks, the course aims to cultivate a sense of responsibility among future business leaders, ensuring that the integration of AI is conducted ethically and with a deep understanding of its societal impact. In essence, the course is not just about imparting technical knowledge but also about instilling a holistic understanding of AI's role in shaping the business world responsibly. |
| A.5. [Student impact](#student_impact)Must include to explain why this change is being made? | This course will be taken primarily by AI majors and high school students and serve as an introduction the AI field. For high school students, it will also expose them to RIC and college level courses. |
| A.6. [Impact on other programs](#impact)  | Because this course is available to high school seniors as a Pathway course, it may reduce enrollment in other Pathway courses.  |
| A.7. [Resource impact](#Resource) | [*Faculty PT & FT*](#faculty):  | Existing CSCI faculty and/or adjunct faculty will teach the courses. Depending on the growth of the new AI Program, additional faculty and adjuncts may be needed. |
| [*Library*:](#library) | **None** |
| *Technology (for in person delivery)*The VP of Information Services should be consulted prior to submission and their acknowledgement signature included. | None. Courses will use existing classrooms and/or computer labs (hence the cap at 25). |
| *Technology: (for online delivery. Must be RIC supported)*The VP of Information Services should be consulted prior to submission and their approval signature included. | None |
| [*Facilities*](#facilities): | **None. Courses will use existing classrooms and/or computer labs.** |
| A.8. [Semester effective](#Semester_effective) | **Fall 2024** | A.9. [Rationale if sooner than next Fall](#Semester_effective) | **N/A** |
| A.10. INSTRUCTIONS FOR CATALOG COPY: Use the Word copy versions of the catalog sections found on the UCC Forms and Information page. Cut and paste into a single file **ALL the relevant pages from the college catalog that need to be changed.** Use tracked changes feature to show how the catalog will be revised as you type in the revisions. If totally new copy, indicate where it should go in the catalog. If making related proposals a single catalog copy that includes all changes is preferred. Send catalog copy as a separate single Word file along with this form. |
| A.11. List here (with the relevant urls), any RIC website pages that will need to be updated (to which your department does not have access) if this proposal is approved, with an explanation as to what needs to be revised: |
| A. 12 **Check to see if your proposal will impact any of our** [**transfer** **agreements,**](file:///Users/SAbbotson/Documents/Curriculum/ManualandWebsite/transfer%20agreements) **and if it does explain in what way. Please indicate clearly what will need to be updated, including any changes in prefix numbers/titles for TES.****N/A** |
| A. 13 Check the section that lists “Possible NECHE considerations” on the UCC Forms and Information page and if any apply, indicate what that might be here and contact Institutional Research for further guidance.**N/A** |

**B.** [**NEW OR REVISED COURSES**](#delete_if) **FOR WHICH FULL CONTACT HOURS ARE MET IN PERSON**

|  | Old  | New |
| --- | --- | --- |
| B.1. [Course prefix and number](#cours_title)  |  | **CSCI 141** |
| B.2. Cross listing number if any |  | **N/A** |
| B.3. [Course title](#title)  |  | **Applications of Artificial Intelligence** |
| B.4. [Course description](#description)  |  | **Students prepare for success in the AI-driven economy by exploring the transformative power of AI and ethical challenges in business, from personalized customer experiences, healthcare, and manufacturing to autonomous vehicles.** |
| B.5. [Prerequisite(s)](#prereqs) |  | **None** |
| B.6. [Offered](#Offered) please read the screen tips to do this correctly, alternate years needs to be assigned odd/even, and a specific semester. |  | **Fall** |
| B.7. [Contact hours](#contacthours)  |  | **4** |
| B.8. [Credit hours](#credits) |  | **4** |
| B.9. [Justify differences if any](#differences) |  |

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| B.10. [Grading system](#grading)  |  | **Letter grade**  |
| B.11. [Type of cours](#instr_methods)e  |  | **Lecture | Small group** |
| B.12. CATEGORIES 12. a. [How](#required) to be used |  | **Required for major**  |
|  12 b. Is this an Honors  course? |  | **NO** |
|  12. c. [General Education](#ge) N.B. Connections must include at  least 50% Standard Classroom instruction. |  | **NO** |
|  12. d. Writing in the  Discipline (WID) |  | **No** |
| B.13. [How will student performance be evaluated?](#performance)  |  | **Attendance | Class participation (discussions) | Presentations |Papers |** **Class Work** |
| B.14 [Recommended class-size](#class_size" \o "Check appendix XVIII in the UCC Manual for Best Practices) |  | **25 (computer lab)** |
| B.15. [Redundancy statement](#competing) |  |  |
| B. 16. Other changes, if any |  |

| B.17**.** [**Course learning outcomes**](#outcomes)**: List each one in a separate row** | [**Professional Org.Standard(s)**](#standards) | [**How will each outcome be measured?**](#measured) |
| --- | --- | --- |
| Explain the foundational concepts of artificial intelligence and recognize various types of AI technologies and their applications in the business context. |  | Participation in classroom discussions, debates, researched presentations, ethical analysis essays and the course term paper |
| Evaluate and assess the impact of AI on key business functions such as marketing, sales, customer relationship management (CRM), supply chain management, finance, human resources, and operations. |  | Homework assignments, researched presentations, essays and course term paper |
| Communicate effectively about AI concepts, applications, and ethical implications to both technical and non-technical audiences by clearly articulating the technical aspects of AI models and their business applications and effectively conveying the potential impact of AI on business processes, decision-making, and organizational culture. |  | Participation in classroom discussions, debates, researched presentations, ethical analysis essays and the course term paper |
| Understand the importance of data quality, preparation, and management in AI applications. |  | Quizzes, homework assignments, and researched presentations |
| Understand the ethical considerations surrounding data privacy and protection in the context of AI. |  | Classroom discussions, debates, researched presentations, ethical analysis essays and the course term paper |

| B.18. [**Topical outline**](#outline)**:** |
| --- |
| **Week 1: Introduction to Artificial Intelligence*** Overview of AI and its role in business
* History of AI
* Types of AI: Machine learning, deep learning, natural language processing, computer vision
* Ethical considerations of AI

**Week 2: Foundations of AI*** Machine Learning basics
* Supervised, Unsupervised, and Reinforcement Learning
* Data preprocessing and feature engineering

**Week 3: AI for Customer Relationship Management (CRM)*** Personalizing customer experiences
* Predicting customer churn
* Chatbots and virtual assistants
* Sentiment analysis and social media monitoring

**Week 4: AI for Marketing and Sales*** Targeted advertising and marketing campaigns
* Lead generation and qualification
* Sales forecasting and opportunity prediction
* AI-powered sales chatbots
* Identifying market trends and customer needs
* Generating new product ideas and concepts
* Optimizing product design and development
* AI-powered product recommendations

**Week 5: AI for Finance and Risk Management*** Fraud detection and prevention
* Credit scoring and risk assessment
* Algorithmic trading and portfolio optimization
* Chatbots for financial advice and customer service

**Week 6: AI for Supply Chain Management and Manufacturing*** Demand forecasting and inventory optimization
* Predictive maintenance and supply chain risk management
* Route optimization and logistics planning
* Blockchain and AI for supply chain transparency
* Process automation and robotic process automation (RPA)
* Predictive maintenance and quality control
* Supply chain optimization and demand forecasting
* AI-powered workplace assistants

**Week 7: AI for Human Resources and Talent Management*** Candidate screening and interview scheduling
* Employee onboarding and training
* Performance evaluation and employee engagement
* AI-powered HR chatbots

**Week 8: AI for Healthcare*** Medical diagnosis and treatment planning
* Drug discovery and development
* Personalized medicine and precision healthcare
* AI-powered virtual assistants for patient care

**Week 9: AI for Transportation and Logistics*** Self-driving cars and autonomous vehicles
* Traffic management and route optimization
* Delivery and logistics planning
* AI-powered transportation chatbots

**Week 10: AI for Education and Learning*** Personalized learning platforms and adaptive learning systems
* Intelligent tutoring systems and feedback mechanisms
* Virtual assistants for educational support
* AI-powered plagiarism detection tools

**Week 11: AI for Cybersecurity*** Threat detection and intrusion prevention
* Data protection and encryption
* User authentication and access control
* AI-powered cybersecurity chatbots

**Week 12: AI for Government and Public Sector*** E-government and citizen services
* Social welfare and poverty reduction
* Public safety and crime prevention
* AI-powered policy planning and decision-making

**Week 13: AI for Social Media and Networking*** Content moderation and hate speech detection
* Social sentiment analysis and trend prediction
* Personalized recommendations and social media targeting
* AI-powered social media chatbots

**Week 4: Ethical and Legal Considerations in AI*** Bias and fairness in AI algorithms
* Transparency and interpretability
* Legal and regulatory frameworks for AI in business

**Week 15: The Future of AI in Business*** Emerging trends and future applications of AI
* The impact of AI on jobs and the workforce
* Ethical considerations and responsible AI development
* Preparing for the AI-driven future of business
* Reflection, Change, and Call to Action
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**G. Signatures**

* **Changes that affect General Education in any way MUST be approved by ALL Deans and COGE Chair**.
* Changes that directly impact more than one department/program MUST have the signatures of all relevant department chairs, program directors, and their relevant dean (e.g. when creating/revising a program using courses from other departments/programs). Check UCC manual 4.2 for further guidelines on whether the signatures need to be approval or acknowledgement.
* Proposals that do not have appropriate approval signatures will not be considered.
* Type in name of person signing and their position/affiliation.
* Send electronic files of this proposal and accompanying catalog copy to curriculum@ric.edu to the current Chair of UCC. Check UCC website for due dates. **Do NOT convert to a .pdf.**

##### G.1. Approvals: required from programs/departments/deans who originate the proposal. THESE may include multiple departments, e.g., for joint/interdisciplinary proposals.

| Name | Position/affiliation | [Signature](#_Signature" \o "Insert electronic signature, if available, in this column) | Date |
| --- | --- | --- | --- |
| Suzanne Mello-Stark | Chair of Computer Science and Information Systems | \*Approved by email | 2/23/24 |
| Marianne Raimondo | Dean of School of Business | \*Approved by email | 2/23/24 |

##### G.2. [Acknowledgements](#acknowledge): REQUIRED from OTHER PROGRAMS/DEPARTMENTS (and their relevant deans if not already included above) that are IMPACTED BY THE PROPOSAL. SIGNATURE DOES NOT INDICATE APPROVAL, ONLY AWARENESS THAT THE PROPOSAL IS BEING SUBMITTED. CONCERNS SHOULD BE BROUGHT TO THE UCC COMMITTEE MEETING FOR DISCUSSION; all faculty are welcome to attend.

| Name | Position/affiliation | [Signature](#Signature_2) | Date |
| --- | --- | --- | --- |
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