Central Christian College of Kansas

OFFICE OF THE PROVOST

FORM A01 – REQUEST FOR ADMINISTRATIVE APPROVAL

Date: 09/04/2025

This request is for: ❍ Course Description ❍ Policy ❍ Course Title
❍ Program Title ❍ Minor ❍ Other: Course Numbers & Department Codes

Delivery Method: ❍ Residential Only ❍ Hybrid (Residential/Online) ❍ Online
(Check all that apply)

Name of Individual Making Request: Michele August

Sponsoring Department: Registrar

Proposed Effective Date: 08/25/2025

This form, along with supporting documentation addressing the points outlined below, is required *before* the request can be considered.

1. **Description**: Provide a detailed description of what the request entails. Be sure that any policy, course description, or other official expression be clearly articulated and identified.

In order to bring the courses into alignment with other courses offered at CCCK, the RIZE courses will be numbered to match other business department courses. The numbers will also help to identify the level of each course. See attached list. The catalog, degree audits, and course offerings will be updated with the new course numbering system. If allowed, I would like to go backwards and update the past student records with the updated course information so they will pull into degree audits correctly. Pre-requisites will also be added to the courses and to their descriptions to match the recommendations put forth by RIZE.

The courses will be identified under the following department codes: BS-CP for the programming courses, BS-CY for cybersecurity, BS-DA for data analysis courses, and BS-DS for data science courses.

2. **Rationale**: Provide a reason for the request. Be sure to include a detailed description of how assessment was used to derive this request.

There is no consistency in how the RIZE courses are recorded in the catalog or in the course offering since we began offering them. No master course was created for those courses in the SIS, either. Updating the courses with numbers that align with other departmental courses will make them easier to identify, to record on the transcript, and to count as upper or lower division credit. It will also make it easier to use these courses in the degree audit. A special section code or course identifier can be added to the title of the courses so we can tell which ones are from RIZE.

3. **Documentation**: Provide any and all meeting minutes and other documentation supporting the request. If the request includes a modification of an already stated name, description, or policy – be sure to include the old and new wording for comparative analysis.

See attached RIZE program data.

4. **Affect**: How will this request affect current programs, loads, faculty and students? Provide data illustrating who will be affected by this request.

The only impact on any programs or students will be how the courses are listed in student records, in the catalog, and in the degree audits. This will make it easier to identify courses.

5. **Departmental Alignment:** Describe how this request aligns with the mission and stated outcomes of the department. How will this request enhance departmental outcomes?

This request will align the courses with the rest of the business department's offerings.

6. **Mission Alignment:** How does this request align with the mission of the department and the College? How will this request benefit the student? In what way does the request enhance the achievement of student learning outcomes?

This benefits the student by clearly and consistently identifying the RIZE courses. It will also allow us to ensure proper preparation for students in each course in ensuring pre-requisite courses are taken first.

7. **Assessment Plan**: Provide a comprehensive description of how this request will be assessed, if approved.

Courses will be assessed in the same manner as all other courses for the department.

Departmental Approval:

Department Chair/Director	Date

Provost Approval:

❍ No Action Required
❍ Notification Required

Provost	Date

Academic Approvals/Notifications:

AAAC Approval/Notification	Date of Minutes	Faculty Approval/Notification	Date of Minutes

Course Numbering:	Prerequisites
BS-DA 101 Foundations of Data Analytics I	none
BS-DA 102 Foundations of Data Analytics II	BS-DA 101
BS-DS 201 Career Navigation and Exploration in Data Science	BS-DA 101 or BS-DA 102 or permission of department
BS-DS 202 Data Science I	BS-DA 101, BS-DA 102, BS-CP 101, and BS-CP 102
BS-DS 301 Data Science II	BS-DA 101, BS-DA 102, BS-CP 101, BS-CP 102, and BS-DS 202
BS-DS 302 AI and Machine Learning	BS-DA 101, BS-DA 102, BS-CP 101, BS-CP 102, BS-DS 202, and BS-DS 301
BS-DS 395 Practicum	BS-DA 101, BS-DA 102, BS-CP 101, BS-CP 102, BS-DS 202, and BS-DS 301
BS-CP 101 Programming for Everyone I	none
BS-CP 102 Programming for Everyone II	BS-CP 101
BS-CP 301 Data Structures	BS-CP 101 and BS-CP 102
BS-CP 401 Algorithms	BS-CP 101, BS-CP 102, NS-MA 111, and BS-CP 301
BS-CY 101 Introduction to Cybersecurity	none
BS-CY 201 Career Navigation and Exploration in Cybersecurity	Any BS-CY course or permission of the department
BS-CY 202 Network and System Security	none
BS-CY 203 Cybercrime and Governance	none
BS-CY 301 Security Operations	BS-CY 101 and BS-CY 202
BS-CY 302 Ethical Hacking	BS-CY 202
BS-CY 401 The Future of Cybersecurity	BS-CY 202
BS-CY 491 Cybersecurity Capstone	BS-CY 101, BS-CY 202, BS-CY 203, BS-CY 301, BS-CY 302, and BS-CY 401

RIZE program documentation (taken from RIZE Knowledge Base Programs | Rize)

https://wandering-confidence-1a0.notion.site/Cybersecurity-Advisor-Guide-e5218849dfff4004882bfae4a64ffca5?pvs=143

Cybersecurity Advisor Guide

For Enrollment Advisors

Who should take this program?

- Students who want a lucrative job in a fast-growing field

What makes this program special?

In addition to its exceptional development team, and corporate connections:

- **Exam Ready -** This program prepares students for multiple highly sought-after certifications, discussed in more detail via links below.
- **Job Ready -** Students will build hands-on skills in courses within this program, gain multiple valuable certifications, and enter a white-hot field as highly competitive job seekers.

- **Low Code** - This program is designed to give students strong critical thinking and practical cybersecurity skills. However, due to the nature of most jobs within this space, this program has substantially less programming and quantitative coursework than students might expect.

Job Outlook

According to Burning Glass, cybersecurity professionals earn a median salary of $90,757, with entry-level positions starting at $60k. Furthermore, ****there is virtually **zero-percent unemployment** within the field of cybersecurity and approximately **460,000 unfilled positions** in the US alone.

Key Program Details

- **Credits:** 36+ Hours
- **Hardest Class:** Capstone - this course serves as the culmination of a student's work within the program, and is thus the most rigorous

For Academic Advisors

When should I advise students out of this program?

This program does not have an obvious weed-out point. However, students who struggle in Introduction to Information Technology Systems will likely struggle in Network and System Security.

What should I know about prerequisites?

Students should complete as many of the foundational courses as early as possible, as doing so will increase internship opportunities.

How should I guide more advanced students or those who wish to pursue graduate degrees?

More advanced students - as well as those who desire graduate degrees within IT - should pursue additional work in computer science or data science.

As noted above, this program is relatively low code. As such, students who wish to pursue technical graduate studies will be well-served by double-majoring in CS or taking advanced mathematics classes.

Students seeking an MBA or other graduate management degrees should gain professional experience for 2+ years, then pursue graduate studies.

What if I don't want to be a cybersecurity professional?

Students who do not want to work in the field of cybersecurity should consider pursuing a different field of study.

Notes on Certifications

This program prepares students for a number of Cybersecurity certification exams, please click here to learn more about these certifications and how students are prepared.

Class Guide

Note: This Guide provides a one-sentence description of each course in the program, lists its prerequisites, courses that require it, course level, suggested term, and provides additional context where applicable

<aside> 💡 To learn about certifications available through these - and other - courses, please click here

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CYBER I - Introduction to Cybersecurity

General introduction to the field of Cybersecurity

Prerequisites:

- None

Required By:

- Security Operations
- Capstone

Notes:

- 100-Level
- Suggested Terms Yr 1 Fall, Yr 2 Fall
- This course provides a solid foundation in cybersecurity principles and practices. It's an excellent starting point for anyone interested in the field, even those unsure about committing to the full program.

CYBER II - Career Navigation and Exploration in Cybersecurity

Guides students in exploring career paths in cybersecurity, identifying target jobs, and developing skills to attract employers, ultimately helping them secure fulfilling and financially rewarding cybersecurity jobs.

Prerequisites:

Either:

- Any Cybersecurity class, or
- Advisor approval and a **strong interest** in a career in Cybersecurity

Required by:

- None

Notes:

- 200 Level
- Suggested Terms: Yr 1 Spring OR Yr 2 - Fall

- This course prepares students early on in their college career to think about their post-graduation career plans, encouraging them to make the best use of their college time to set themselves up for success when entering the job market.

CYBER III - Network and System Security

Teaches students to secure digital assets and systems

Prerequisites:

- None

Required By:

- Security Operations
- Ethical Hacking
- The Future of Cybersecurity
- Capstone

Notes:

- 200-Level
- Suggested Terms: Yr 2 Spring, Yr 3 Spring
- This is a key technical course that will give students experience with tools and techniques used by cybersecurity professionals.

CYBER IV - Cybercrime and Governance

Explores the nature of cyber attacks and the legal environment around cybercrime

Prerequisites:

- None

Required by:

- Capstone

Notes:

- 200-Level
- Suggested Terms: Yr 1 Spring, Yr 2 Spring
- This course offers valuable context on the legal and policy aspects of cybersecurity. It's particularly relevant for students interested in the non-technical sides of the field.
- It serves as an excellent elective for criminal justice and legal studies majors due to the increasing focus on cybersecurity in both of those areas.

CYBER V - Security Operations

Teaches students how to gather and analyze digital evidence, and how to draw conclusions from that evidence

Prerequisites:

- Introduction to Cybersecurity
- Network and System Security

Required By:

- Capstone

Notes:

- 300-Level
- Suggested Terms: Yr 3 Fall, Yr 4 Fall
- This course is ideal for students who enjoy problem-solving and are interested in incident response and digital forensics careers.

CYBER VI - Ethical Hacking

Asks students to practice penetration testing and other key cybersecurity activities

Prerequisites:

- Network and System Security

Required By:

- Capstone

Notes:

- 300-Level
- Suggested Terms: Yr 3 Spring, Yr 4 Fall
- Although this course is light on specific prerequisites, it’s still recommended students complete at least two other cybersecurity classes prior to attempting this one, as it’s quite rigorous. It's best suited for those who have a strong grasp of earlier course material and are ready for advanced technical content.

CYBER VII - The Future of Cybersecurity

Exploration of emerging cybersecurity threats and technologies

Prerequisites:

- Network and System Security

Required by:

- Capstone

Notes:

- 400-Level
- Suggested Terms: Y4 Fall
- This is a forward-looking course that keeps students updated on emerging trends. It's particularly valuable for students nearing graduation who want to stay current with industry developments.

CYBER VIII - Capstone

Comprehensive, project-based culmination of the program where students apply their knowledge to real-world challenges, integrating various aspects of cybersecurity

Prerequisites:

- Introduction to Cybersecurity
- Network and System Security
- Cybercrime and Governance
- Security Operations
- Ethical Hacking
- The Future of Cybersecurity

Required by:

- Capstone

Notes:

- 400-Level
- Suggested Terms: Y4 Spring
- This is the culmination of the program where students apply all their learned skills. Students should view it as an opportunity to build a portfolio that can showcase their abilities to potential employers.

https://wandering-confidence-1a0.notion.site/Data-Science-Advisor-Guide-1fb40a56d0b54778af48d29271537491?pvs=143

Data Science Advisor Guide

For Enrollment Advisors

Who created this curriculum?

Dr. Charles Severance, tenured Professor at the University of Michigan and creator of the most popular distance education programming courses in the country.

Mala Chandra - formerly a professor at the University of Washington, creator of multiple fundamental Java technologies, named one of the 25 most influential women in the development of the internet.

What companies were involved in the creative process?

- **ezCater** is the leading platform for business catering, purpose-built so that companies can manage all their food ordering, payments, budgeting, and reporting in one place**.** ezCater serves teams at 93% of the Fortune 500 and hosts more than 100,000 restaurants. Their foundation in using data to solve business problems was instrumental in designing this program.

- **Praxis Precision Medicines, Inc.** is a clinical-stage biopharmaceutical company translating insights from genetics into the development of therapies for neurological disorders. Their expertise in working with vast amounts of data was invaluable in helping design this curriculum.

Who should take this program?

Data Science and AI Engineering

- Students who want to work in the emerging AI and Machine Learning industry, or who want to become data scientists in virtually any field, should consider this track.
- Additionally, students who want to be able to apply a data-driven lens to a natural or social science field, such as Political Science, Sociology, or Biology (as a double major), and are interested in learning how to code, should consider the Data Science track.

As a minor

- This program works for everyone! Data literacy is an increasingly important part of virtually all career paths.

What makes this program special?

- **Relevant**: This program provides instruction tailored to students' career goals, incorporating the most relevant tools of the trade (like Python and SQL). However, all students take introductory courses that emphasize data analysis with spreadsheets, to build strong foundational skills working with data before progressing to more technical topics. In the capstone course, students build a complete data science project to add to their portfolio.
- **Accessible**: This program is relatively gently paced and strips out unnecessary hard math for a greater focus on real-world applicability. As such, it is far more accessible than a typical program with similar outcomes.
- **Engaging**: Topics which showcase the applicability of Data Science and Analytics to the real world are woven through the curriculum in order to ensure that students remain engaged with the more technical material and have fun with their newly developing understanding of data.
- **Job Focused**: The curriculum includes a focus on workforce applicability, allowing students to see how their learning applies to various fields, thus giving them a leg up on the competition when applying to jobs in their chosen industry.

Job Outlook

Students can pursue a wide range of careers in business, finance, healthcare, and tech. Jobs for Data Scientists offer high starting salaries.

- **Example:** Data Scientist
    - No prior experience required
    - Median salary: $103,500
    - Job Growth: 35% over 10 years (much faster than average)

Key Program Details:

- **Math**: Calculus I, Statistics, Probability
- **Credits:** Approximately 44 (Check your school for details)
- **Hardest Class:** Algorithms or AI and Machine Learning

- Both classes are highly technical, however students will have a solid basis in programming and data science before taking either class.

For Academic Advisors

When should I advise students out of this program?

Students who are struggling with Foundations of Data Analytics I or II

Student who are having difficulty with the Data Science Core coursework, *after taking Programming for Everyone I and I*, may be advised to pursue the Business Analytics track (which has less emphasis on coding) or advised out of the program.

What should I know about prerequisites?

This is a technical program; many of the later courses feature a number of prerequisites. This is especially true for the capstone course.

Students should take Programming for Everyone I and II as early as possible to maximize their flexibility in course selection.

How should I guide more advanced students or those who wish to pursue graduate degrees?

More advanced students (and those who wish to pursue graduate studies) will be well served by taking advanced math classes – especially Linear Algebra – and making sure they opt into the Algorithms elective. Students may also wish to double major in Mathematics or Computer Science (especially if your school has a more theory-driven approach to CS).

Students who are interested in graduate school should clarify the requirements of the programs they are interested in pursuing, and make sure that they fulfill the prerequisites for those programs.

What if I don’t want to be a Data Data Scientist?

Students who do not want to work as a Data Scientist will be well served by building out their programming skills further by switching to CS, if that aligns with their interests. Otherwise, a degree in Data Science is valuable to anyone who wishes to pursue a career in business, as it shows employers that a student has a strong understanding of how to think about problems with a quantitative mindset.

Class Guide

Note: This guide provides a one-sentence description of each course in the program, lists its prerequisites, courses that require it, course level, suggested term, and provides additional context where applicable.

DAM I - Foundations of Data Analytics I

An introduction to basic analysis and visualization using spreadsheets. Students will explore the core concepts of inference and data analysis by working with real data. By the end of the term, they'll be able to analyze large datasets and present results.

Prerequisites:

- None

Required By:

- Foundations of Data Analytics II
- Data Science I & II
- AI and Machine Learning
- Practicum

Notes:

- 100-level
- Suggested Terms: No later than Yr 2 - Fall

DAM II - Foundations of Data Analytics II

This course builds on Foundations of Data Analytics I with more advanced analysis & data manipulation and an introduction to predictive models using spreadsheets and Python.

Prerequisites:

- Foundations of Data Analytics I

Required By:

- Data Science I & II
- AI and Machine Learning
- Practicum

Notes:

- 100-level
- Suggested Terms: No later than Yr. 2 – Spring
- When combined with its prerequisite, this course serves as an excellent foundation in Data for students in Business, Health or Social Science fields
- This course includes an intuitive introduction to Bayes' Theorem, and thus may be a good option for students who would benefit from learning that concept without needing a strong mathematical background

DSM I – Data Science I

The first course in the Data Science & AI Engineering sequence introduces data science in Python, making use of advanced visualization and predictive modeling tools.

Prerequisites:

- Foundations of Data Analytics I & II
- Programing for Everyone I & II

Required By:

- Data Science II
- AI and Machine Learning
- Practicum

Notes:

- 200-level
- Suggested Terms: Yr 3 – Fall
- This course includes some Linear Algebra content necessary for work in Data Science.
- Students with generally weaker quantitative skills are encouraged to take Data Structures or Calculus I prior to taking this class
- Students who have completed any introductory programming course and have fundamental competence in Python may waive the Programming for Everyone I & II requirements
- More advanced students interested in the Data Science & AI Engineering track are encouraged to take this course concurrently with Programming for Everyone or other introductory programming coursework. Students interested in the Data Science & AI Engineering track with less familiarity with technology are encouraged to take Programming for Everyone I & II before attempting this class.

DSM II - Data Science II

The second course in the Data Science & AI Engineering sequence dives into machine learning models, natural language processing and time series in Python.

Prerequisites:

- Foundations of Data Analytics I & II
- Programing for Everyone I & II
- Data Science I

Required By:

- AI and Machine Learning
- Practicum

Notes:

- 300-level
- Suggested Terms: Yr 3 - Spring
- This course includes some Linear Algebra content necessary for work in Data Science
- Students who have completed any introductory programming course and have fundamental competence in Python may waive the Programming for Everyone I & II requirements

DSM III - AI and Machine Learning

Students leverage machine learning models to solve business problems, evaluate modern AI use cases (such as computer vision), and adapt Large Language Models (LLMs) for specific applications. This is a technical approach to cutting-edge AI methods.

Prerequisites:

- Foundations of Data Analytics I & II
- Programing for Everyone I & II
- Data Science I & II

Required By:

- None

Notes:

- 300-level
- Suggested Terms: Yr 4 – Spring

DSM IV - Practicum

This capstone course applies advanced techniques in data science to solve novel business problems, and supports students as they build a portfolio for job applications and prepare for interviews.

Prerequisites:

- Foundations of Data Analytics I & II
- Programming for Everyone I & II
- Data Science I & II

Required By:

- None

Notes:

- 300-level
- Suggested Terms: Yr 4 - Fall
- The project that students complete in this course will serve as a showcase portfolio project to show potential employers.

DSM V - Career Navigation and Exploration in Data Science

In this course, students explore career paths in data science, and identify target jobs and opportunities. Students will then plan their path to achieve their goals and begin executing that plan.

Prerequisites:

- DAM I & DAM II, or
- A Data Science major or a **strong interest** in a career in Data Science

Required By:

- None

Notes:

- 200-level
- Suggested Terms: Yr 2 - Fall or Yr 3 - Fall

CSC II - Programming for Everyone I (Cognate)

A gently paced programming class, which teaches the fundamentals of programming with Python.

Prerequisites:

- None

Required by:

- Programming for Everyone II
- Data Structures
- Data Science I, II, & III

Notes:

- 100-level
- Suggested Terms: Yr 1 – Fall, or as early as possible
- This course is intended to be the gentlest possible introduction to programming - students who struggle here should not pursue further study in game development
- Students should take this course as early as possible in their academic careers
- Students with less developed quantitative skills should take this course prior to attempting Data Science I, whereas more advanced students should take these courses concurrently

CSC III - Programming for Everyone II (Cognate)

Second half of Programming for Everyone - expands skill in Python, introduces students to SQL (Structured Query Language).

Prerequisites:

- Programming for Everyone I

Required by:

- Data Structures
- Data Science I, II, & III
- Practicum

Notes:

- 100-level
- Suggested Terms: Yr 1 – Spring, or immediately after taking prerequisite

CSM III - Data Structures (Cognate)

This course teaches students fundamental data structures using Python. Students learn what a data structure is and how to use them. Introduces Algorithms

Prerequisites:

- Programming for Everyone I & II

Required by:

- Algorithms

Notes:

- 300 - Level
- Suggested Terms: Yr 3 - Fall
- This course is taught in Python. Students familiar with python programming may waive the Programming for Everyone requirement.
- **Please note:** Transfer students who have completed introductory programming coursework elsewhere should not be allowed to join this class *unless* that coursework used Python or they are otherwise familiar with the language.

CSM IV - Algorithms (Cognate, Elective)

Teaches students algorithms from a coding-heavy perspective. Students will learn about algorithm design and how to select and use algorithms. This course is taught using Python.

Prerequisites:

- Programming for Everyone I & II
- Calculus I
- Data Structures

Required by:

- None

Notes:

- 400 - Level
- Suggested Terms: Yr 3 - Spring
- This course is heavily recommended for the Data Science & AI Engineering track
- This course removes a fair amount of theoretical math as compared to a typical Algorithms class to create an increased focus on practical applications