CRJ558: Fraud Data Analysis

Credit Hours: 3
Contact Hours: This is a 3-credit course, offered in accelerated format. This means that 16 weeks of material is covered in 8 weeks. The exact number of hours per week that you can expect to spend on each course will vary based upon the weekly coursework, as well as your study style and preferences. You should plan to spend 10-25 hours per week in each course reading material, interacting on the discussion boards, writing papers, completing projects, and doing research.

Faculty Information

Name:
Phone:
CSU-Global Email:
Virtual Office Hours:

Course Description and Outcomes

Course Description:
The course is focused on computer-assisted analytical techniques for fraud detection and investigation. The emphasis is on solution of the data problem and application of analytical techniques for preventive, detective, and corrective controls.

Course Overview:
CRJ558 introduces basic techniques to uncover fraud through data analytics. The course is focused on computer-assisted analytical techniques for fraud detection and investigation, with emphases on analytical solutions to fraud problems and the application of computer-based techniques for preventive, detective, and corrective controls. The course examines specific types of fraud, including financial statement misrepresentation, and helps students identify the types of data available and the tools that can be used to detect and prevent fraud. The course also provides in-depth analysis of risk factors within an organization and addresses the development of red flags to assist with the identification of fraudulent activity.

Course Learning Outcomes:

1. Describe reasons for using data analysis to detect fraud.
2. Obtain and cleanse the data.
3. Explain characteristics and components of the data and assess their completeness.
4. Identify known fraud symptoms and use digital analysis to identify unknown fraud symptoms.
5. Automate the detection process.
6. Verify results and prosecute fraud.

Participation & Attendance

Prompt and consistent attendance in your online courses is essential for your success at CSU-Global Campus. Failure to verify your attendance within the first 7 days of this course may result in your withdrawal. If for some reason you would like to drop a course, please contact your advisor.
Online classes have deadlines, assignments, and participation requirements just like on-campus classes. Budget your time carefully and keep an open line of communication with your instructor. If you are having technical problems, problems with your assignments, or other problems that are impeding your progress, let your instructor know as soon as possible.

Course Materials

Required:


NOTE: All non-textbook required readings and materials necessary to complete assignments, discussions, and/or supplemental or required exercises are provided within the course itself. Please read through each course module carefully.

Course Schedule

Due Dates

The Academic Week at CSU-Global begins on Monday and ends the following Sunday.

- **Discussion Boards**: The original post must be completed by Thursday at 11:59 p.m. MT and Peer Responses posted by Sunday 11:59 p.m. MT. Late posts may not be awarded points.
- **Mastery Exercises**: Students may access and retake mastery exercises through the last day of class until they achieve the scores they desire.
- **Critical Thinking Activities**: Assignments are due Sunday at 11:59 p.m. MT.

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<tr>
<th>Week #</th>
<th>Readings</th>
<th>Assignments</th>
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| 1      | Chapters 1, 2, & 3 in *Forensic Analytics: Methods and Techniques for Forensic Accounting Investigations* | • Discussion (25 points)  
• Critical Thinking (150 points) |
| 2      | Chapters 15 & 16 in *Forensic Analytics: Methods and Techniques for Forensic Accounting Investigations* | • Discussion (25 points)  
• Portfolio Milestone (20 points toward a Portfolio Project score of 350 Points) |
| 3      | Chapter 14 in *Forensic Analytics: Methods and Techniques for Forensic Accounting Investigations* | • Discussion (25 points)  
• Critical Thinking (150 points) |
| 4      | Chapter 13 in *Forensic Analytics: Methods and Techniques for Forensic Accounting Investigations* | • Discussion (25 points)  
• Portfolio Milestone (15 points toward a Portfolio Project score of 350 Points) |
| 5      | Chapters 17 & 18 in *Forensic Analytics: Methods and Techniques for Forensic Accounting Investigations* | • Discussion (25 points)  
• Critical Thinking (150 points) |
| 6      | Chapter 4 in *Forensic Analytics: Methods and Techniques for Forensic Accounting Investigations* | • Discussion (25 points)  
• Portfolio Optional Deliverable (0 points) |
| 7      | Chapters 12 & 13 in *Forensic Analytics: Methods and Techniques for Forensic Accounting Investigations* | • Discussion (25 points) |
| 8      | Chapters 5-8 in *Forensic Analytics: Methods and Techniques for Forensic Accounting Investigations* | • Discussion (25 points)  
• Portfolio Project (350 points) |

Assignment Details

This course includes the following assignments/projects:
Module 1

Critical Thinking: Forensic Analytics (150 points)

In this first week of CRJ558, we have begun an examination of the world of forensic analytics, a very exciting field in criminal justice. For this Critical Thinking Assignment, compile a critical survey of forensic analytics that provides a response to each of the following items:

1. Forensic analytics is the procurement and analysis of electronic data to reconstruct, detect, or otherwise support a claim of financial fraud. List and briefly describe the four main steps in forensic analytics.

2. Cite four features of Microsoft Access and describe how each can inform a process of forensic analytics by performing calculations and manipulating and querying data.

3. Explain why it is important to perform data cleansing before the data is analyzed.

4. Identify the sorts of data one can put into a cell in an Excel worksheet that can inform a process of forensic analytics.

5. Explain the difference between using the Copy and Paste sequence in Excel or using the Data→Get External Data commands.

6. Describe how one can use Excel's conditional formatting options in forensic analytics.

7. Address the question of whether a forensic report should include a recommendations section.

8. Identify the five main sections of a PowerPoint presentation dealing with a forensic-related matter.

9. Explain why a PowerPoint presentation on a forensic matter should only be made at the end of the investigation and why there should be no interim report.

10. Identify who would be the audience for a presentation concerning a fraud investigation that dealt with members of senior management.

Support your analysis, assertions, and/or positions, providing and integrating at least three citations of credible or scholarly sources, one of which may be the course textbook. The CSU-Global Library is a good place to find credible and scholarly sources. Your paper should be 900-1,200 words in length, with document and citation formatting in conformity with CSU-Global Guide to Writing and APA Requirements.

Module 2

Portfolio Milestone: Company Profile (20 points toward a Portfolio Project score of 350 Points)

Choose and describe a company that will be the focus of your investigation. Begin by searching the internet or the CSU-Global Library's LexisNexis to find a company about which you can obtain financial documents—at minimum an income statement and balance sheet. Larger companies can be located using an SEC 10-K Report. If you type this in Google followed by a company name, you will see results. For example: SEC 10-K Report Coca-Cola. You can also locate financial records for companies using general Google searches and also Ventureline.com, for which a link is provided below. Your instructor must approve of your company prior to the student beginning substantive work on the project. Consider choosing a company that you can also obtain background information on, as this will be useful for some areas of the investigation. For your final report, provide a one-paragraph to one-page description of your company including basic facts such as financial status, market it operates in, product or service, etc.

Ventureline.com is an excellent site to research and obtain the financial statements of companies and to obtain results from specific ratio analyses.

Provide the name of the company of your choice, URLs and/or contact information to specify where you will get your data and company information, and a short description of the company, including the type of business, products and/or services offered, markets served, size, and financial status.
Your company profile should be 300-400 words in length, plus or minus a short paragraph, with document and citation formatting in conformity with the CSU-Global Guide to Writing and APA Requirements.

No points will be assigned this week for this deliverable, but points will be deducted from your final grade on the Portfolio Project if you fail to submit it. See the Portfolio Project grading rubric, which can be accessed from the Course Information page, for details. Additionally, you will be expected to incorporate feedback from your instructor into your final delivery of the Portfolio Project.

Module 3

Critical Thinking: Fraud Vulnerability Assessment (150 Points)

See the Week 3 Assignments page to view a fraud vulnerability assessment prepared by Summerford Accountancy, PC, for the Wake County Board of Education in Raleigh, NC.

Then prepare a PowerPoint presentation that meets the following specifications:

1. Prepare two or three PowerPoint slides summarizing the specific approach of the background and engagement team in the report. These sections refer to pages 4 to 16 in the report.
2. Prepare two or three slides summarizing the areas of noted weakness in the report. This section is in pages 16 to 26 in the report.
3. Prepare two or three slides summarizing the fraud prevention and detection section in the report. This section is in pages 27 to 34 in the report.
4. Prepare two or three slides interpreting the firm’s investigative approach to this case. Briefly evaluate the strengths and weaknesses of the firm’s approach and compare with alternative tactics.

Your presentation should be well organized, well written, and 8 to 10 slides in length, with any citations formatted in conformity with the CSU-Global Guide to Writing and APA Requirements. To view the sample PowerPoint cited in APA, click the “APA Guide & Resources” link in the CSU-Global Library.

Module 4

Portfolio Milestone: Outline (15 points toward a Portfolio Project score of 350 Points)

Provide a complete outline of the written part of the Portfolio Project. The outline should be of sufficient length for your topic and for the research you have collected so far, though you are not required to provide a great deal of detail as this deliverable is mostly to ensure that you are on track to complete your project by the end of Week 8. Still, strive to make it a tool that you will find helpful later during the drafting stage of your project.

Regarding the submission of data, review the portion of the Portfolio Project description (found on the Week 8 Assignments page) under the heading #6: Perform Two Forensic Analytical Tests.

No points will be assigned this week for this deliverable, but points will be deducted from your final grade on the Portfolio Project if you fail to submit it. See the Portfolio Project grading rubric, which can be accessed from the Course Information page, for details. Additionally, you will be expected to incorporate feedback from your instructor into your Portfolio Project.

Module 5

Critical Thinking: Evaluate Forensic Tests (150 Points)
Describe, evaluate, and analyze the various forensic tests listed below (which are presented in the course textbook).

- Benford’s Law
- Largest Subsets Test
- Relative Size Factor Test
- Same-Same-Same Test
- Correlations
- Time Series Analysis

Please include a response to each of the following items for each of the six tests:

1. Describe the main features, purpose, and application of this test in a forensic setting.
2. Explain the practical application of this test and provide advantages and disadvantages of using this approach.
3. Describe an example in which the test would be applied.
4. Evaluate this test’s usefulness and formulate an ideal business situation where this test would be most useful to the forensic investigator.

Support your analysis, assertions, and/or positions by citing and integrating knowledge from at least three credible or scholarly sources, one of which may be the course textbook. The CSU-Global Library is a good place to find credible and scholarly sources. Your paper should be 900-1,200 words in length, with document and citation formatting in conformity with the CSU-Global Guide to Writing and APA Requirements.

Module 6

Portfolio Optional Delivery: Draft (optional; not worth points toward Portfolio Project score)

You may submit a draft of the written and/or PowerPoint portion of your Portfolio Project any time before Sunday midnight of Week 6 to get feedback from the instructor before Sunday midnight of Week 7. This is optional and not a required assignment. However, it is recommended that you take advantage of this opportunity to receive recommendations and evaluation for your project.

Module 8

Portfolio Project: Forensic Analysis and Presentation of Findings (350 Points)

For this Portfolio Project, you will assume the role of a forensic analyst who has been asked by a business to conduct a forensic analysis to detect possible fraudulent activity. Perform such an analysis on this company using Excel and then present your findings in a final case report, which will include a written component in Word form and a presentation developed in PowerPoint, Google Presentations, Prezi, or the application of your choice.

You will be required to apply all of the skills and techniques that are presented in the eight course modules to run forensic tests and then interpret your findings into a usable fraud-detection strategy. The following Portfolio Milestones are deliverable before midnight on Sunday of Weeks 2, 4, and 6:

- **Due 11:59 PM Sunday of Week 2:** A draft of your Company Profile. (See Week 2 Assignments page and item #1 below for description).
- **Due 11:59 PM Sunday of Week 4:** An outline of the written part of the Portfolio Project plus the data that you will analyze. Provide a complete outline of the written part of the Portfolio Project assignment. The outline should be of sufficient length for your project and research collected as of Week 4. You are not required to provide a great deal of detail; this deliverable is mostly to ensure that you are on track to complete your project by the end of Week 8.
Optional; 11:59 PM Sunday of Week 6: You may submit a draft of the written and/or PowerPoint portion of your Portfolio Project any time before Sunday midnight of Week 6 to get feedback from the instructor before Sunday midnight of Week 7. This is optional and not a required assignment. However, it is recommended that you take advantage of this opportunity to receive recommendations and evaluation for your project.

There are seven main areas that must be addressed in this investigation and in the final Word document report.

1. **Company Profile** (suggested length: 300-400 words)

   Although the company profile component of the assignment is a preliminary deliverable, due before midnight on the Sunday of Week 2, be sure to provide or summarize this information in your final project delivery.

   Choose a company that will be the focus of your investigation. Begin by searching the internet or the CSU-Global Library’s LexisNexis to find a company about which you can obtain financial documents—at minimum an income statement and balance sheet. Larger companies can be located using an SEC 10-K Report. If you type this in Google followed by a company name, you will see results. For example: SEC 10-K Report Coca-Cola. You can also locate financial records for companies using general Google searches and also Ventureline.com, for which a link is provided below. Your instructor must approve of your company prior to the student beginning substantive work on the project. Consider choosing a company that you can also obtain background information on, as this will be useful for some areas of the investigation. For your final report, provide a one-paragraph to one-page description of your company including basic facts such as financial status, market it operates in, product or service, etc.

   Ventureline.com is an excellent site to research and obtain the financial statements of companies and to obtain results from specific ratio analyses.

   Provide the name of the company of your choice, URLs and/or contact information to specify where you will get your data and company information, and a short description of the company, including the type of business, products and/or services offered, markets served, size, and financial status.

   Your company profile should 300-400 words in length, plus or minus a short paragraph, with document and citation formatting in conformity with CSU-Global Guide to Writing and APA Requirements.

2. **Offender Profile** (suggested length: 300-400 words)

   Using the criminological theories discussed in Module 2, develop a profile of the potential fraud offender for this company. Be sure to consider all factors in the company’s background, such as what geographic areas it operates in, whether and how often employees are in an office or in the field, what industry it operates in, competitor activity, past fraudulent activity, etc. For this section, focus exclusively on the offender. You will delve into red flags and risk factors in the next section.

3. **Identify Risk** (suggested length: 300-400 words)

   Utilize the techniques presented in Module 2 to create a list of potential internal and external threats to this company. Develop a list of at least 25 specific risks that the firm will face. For example, (1) check employee cell phone usage via report to identify personal use (internal threat) or (2) monitor any medical bills received from Dr. Smith as he was just indicted for medical fraud (external threat).
4. **Identify Red Flags** (suggested length: 300-400 words)

As discussed in Module 2, develop a list of red flags that your company can use as part of fraud-prevention efforts. Remember that these can be used as part of your database parameters when performing forensic analytics. Aim to design at least 10 to 15 red flags based on the risks developed in the previous section.

5. **Analyze Financial Documents** (suggested length: 600-700 words)

As presented in Module 5, review and analyze the financial information from your company. The first step in this section is to import your financial data into MS Excel. Once this is complete, perform a forensic analysis of the data looking for discrepancies and abnormalities. Remember, when looking at financial data it is important to ponder the numbers myopically, but don’t forget to take a broader perspective as well. In other words, as we discussed in Module 5, ask whether sales and revenue match, and how they are related/correlated, for example. Paste your Excel spreadsheet into the Word document.

6. **Perform Two Forensic Analytical Tests** (suggested length: 600-700 words)

This is where you get to show off your skills! In this section of the paper, perform two forensic tests selected from the list below on company data. You may use any form of data to analyze. If you could not locate any usable data, you may fabricate your own data set using at least 10 data cells in Excel. The data you use must be approved by your instructor as a deliverable in the Week 4 outline. Following is a list of tests from which you must choose the two you will perform:

- Data Profile
- Histogram
- Period Graph
- Ratio
- Correlation
- Time-Series Analysis
- Benford’s Law

7. **Interpretation and Summary** (suggested length: 600-700 words)

For the final section of your report, provide a full summary of your findings. Assemble an overview of your research on all sections listed. Don’t forget to include potential future threats that the company may face and also a formula for a successful fraud-prevention strategy.

Support your analysis, assertions, and/or positions by citing and integrating knowledge from at least four credible or scholarly sources, one of which may be the course textbook. The CSU-Global Library is a good place to find credible and scholarly sources. Your total paper should be 3,000-4,000 words in length with document and citation formatting in conformity with CSU-Global Guide to Writing and APA Requirements.

**Forensic Analysis: PowerPoint Presentation**

As forensic examiners, you will often be asked to present your findings to various people/groups involved in your case. In this final task, you are required to develop a PowerPoint presentation of at least 10 slides showcasing a full summation of your work. Be sure to include specifics on your analysis and also recommendations for further study and preventive efforts.

Create your presentation using PowerPoint, Google Presentations, Prezi, or any presentation format of your choice. If using Power Point, convert the slides to graphic files and paste them into Word at the end of the written part of your assignment. Or, if your presentation is housed in an online format, copy the link to your presentation and paste it into an addendum at the end of your paper with an appropriate heading or notation regarding the purpose of the link and any relevant access instructions. Ensure your
presentation is public so that your instructor will be able to view it from that link! You must combine the paper and presentation parts of your assignment because you can submit only one document.

Ensure your presentation is well organized, well written, and clearly conveys your findings to an appropriate target audience.

**Course Grading**

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<th>20% Discussion Participation</th>
<th>45% Critical Thinking Activities</th>
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<td>35% Final Portfolio Paper</td>
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<th>Grading Scale and Policies</th>
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**In-Classroom Policies**

For information on late work and incomplete grade policies, please refer to our In-Classroom Student Policies and Guidelines or the Academic Catalog for comprehensive documentation of CSU-Global institutional policies.

**Academic Integrity**

Students must assume responsibility for maintaining honesty in all work submitted for credit and in any other work designated by the instructor of the course. Academic dishonesty includes cheating, fabrication, facilitating academic dishonesty, plagiarism, reusing/re-purposing your own work (see CSU-Global Guide to Writing and APA Requirements for percentage of repurposed work that can be used in an assignment), unauthorized possession of academic materials, and unauthorized collaboration. The CSU-Global Library provides information on how students can avoid plagiarism by understanding what it is and how to use the Library and Internet resources.

**Citing Sources with APA Style**

All students are expected to follow the CSU-Global Guide to Writing and APA Requirements when citing in APA (based on the APA Style Manual, 6th edition) for all assignments. For details on CSU-Global APA style, please review the APA resources within the CSU-Global Library under the “APA Guide & Resources” link. A link to this document should also be provided within most assignment descriptions on your course’s Assignments page.

**Netiquette**

Respect the diversity of opinions among the instructor and classmates and engage with them in a courteous, respectful, and professional manner. All posts and classroom communication must be conducted in accordance with the student code of conduct. Think before you push the Send button. Did you say just what you meant? How will the person on the other end read the words?

Maintain an environment free of harassment, stalking, threats, abuse, insults or humiliation toward the instructor and classmates. This includes, but is not limited to, demeaning written or oral comments of an ethnic, religious, age, disability, sexist (or sexual orientation), or racist nature; and the unwanted sexual advances or intimidations by email, or on discussion boards and other postings within or connected to the online classroom.

If you have concerns about something that has been said, please let your instructor know.