**BU651 Financial Analytics**

**SYLLABUS**



1. Course Information

|  |  |
| --- | --- |
| Course # and Name | BA 651 Financial Analytics |
| Semester | Fall 20215 |
| Modality | On-line |
| Credit Hours | 3 |
| Prerequisites | N/A |

1. Course Professor

|  |  |
| --- | --- |
| Name | Dr. Jennifer Weske |
| Title | Adjunct Professor |
| Email | [weskej@avila.edu](mailto:weskej@avila.edu) |
| Phone | (901)488-9621 |
| Virtual Office Hours | By appointment |

1. Course Catalog Description

This course provides students with a comprehensive understanding of financial analytics and their applications in business. Students will learn how to analyze financial data and use analytics tools to gain insights into financial performance. The course will cover various financial analytics techniques such as financial modeling, portfolio analysis, and risk management. Students will also learn how to use popular financial analytics tools such as Excel, R, and Python.

1. Course and Instructional Materials

[Include information such as books, digital Resources, calculators, mobile devices,

laptops, etc.]

|  |  |
| --- | --- |
| Title of Textbook | Business Analytics, 5e |
| Author | Jeffrey D. Camm, James J. Cochran, Michael J. Fry, Jeffrey W. Ohlmann |
| Publisher & Edition | Cengage |
| ISBN | 9780357902202 |

Other Resources

Excel

Python

R+

Computer

1. University Wide Outcomes

Through the Avila University curriculum, which integrates CSJ values, global and interdisciplinary studies, and civic engagement, the Avila University graduate will demonstrate:

* Personal, spiritual, ethical, professional, and social responsibility aligned with the values of the Sisters of St. Joseph of Carondelet including support for diverse cultures, human rights, and right relationships with self, others, and the earth, instilled in this context through familiarity with a diverse array of disciplines and perspectives.
* Effective use and communication of qualitative and quantitative information.
* Critical thinking, problem-solving, creativity, and innovation by accessing, synthesizing, and applying information from and for various mediums and across technologies, incorporating global perspectives.

1. Program Outcomes

* Career Advancement:
* Graduate programs at Avila are designed to help students build their careers by providing specialized knowledge and skills relevant to their chosen fields.
* Enhanced Workplace Performance:
* The curriculum often incorporates practical, project-based learning experiences, enabling students to immediately apply their learning to their current roles.
* Intellectual Growth:
* Graduate studies foster deeper understanding and critical thinking within a specific discipline, leading to intellectual growth and transferable skills.
* Personal and Professional Development:
* Avila emphasizes the development of the whole person, integrating personal growth with professional advancement.

1. Course Objectives

After successfully completing this course students will be able to perform the following:

* Evaluate and justify data-driven strategies for optimal financial decision-making.
* Select and apply appropriate analytical techniques to extract insights from financial data.
  + Quantify and evaluate the impact of uncertainty on financial models and decision-making.
  + Critically analyze and solve real-world financial problems using a variety of data analysis techniques.
  + Synthesize complex financial analysis and present actionable recommendations to diverse stakeholders.

1. Signature Assessment

Comprehensive Project

**Project Components**:

**Decision Scenario**: Select a realistic business decision problem with multiple potential choices and uncertain outcomes.

* **Decision Tree Construction**: Build a clear and well-labeled decision tree mapping out the choices, uncertain events (with probabilities), and potential outcomes (with estimated payoffs).
* **Analysis & Recommendations**:
  + Calculations: Calculate expected values for each path of the tree to determine the “optimal” decision based on expected payoff.
  + Risk Considerations: Discuss how your risk tolerance (risk-averse, risk-neutral, etc.) would influence your interpretation of the results.
  + Sensitivity Analysis: Change a key probability or payoff to see how it impacts the optimal decision.
* **Recorded Presentation**:
  + Time Limit: 5-8 minutes
  + Content: The presentation should clearly explain the scenario, walk through the decision tree logic, present the analysis results, and conclude with your recommendation and a justification.
* **Executive Summary**:
  + Format: Brief written summary (1-2 pages, APA format, and 2-3 sources).
  + Content: Summarize the main problem, optimal decision, key assumptions, and potential limitations of the analysis. This should be understandable by a non-technical manager.

 Submit your slides, recording link, and executive summary to the drop box for this week.

1. Grading and Evaluation

Assignments

|  |  |  |  |
| --- | --- | --- | --- |
| **Activity Type** | **Percent of**  **Total Grade** | **Weekly Point Value** | **Total Points** |
| Discussions (8) | 25% | 12.5 | 100 |
| Assignments (14) | 30% | 100 (50 pts each) | 700 |
| Final Assignment (1) | 45% | 200 | 200 |
| **Total Possible Points** | | | **1000** |

**Grading**

In determining the final course grade, the following scale is used:

|  |  |
| --- | --- |
| **Points Earned %** | **Final Grade** |
| 90 – 100 % | A |
| 80 – 89 % | B |
| 70 – 79 % | C |
| 60 – 69 % | D |
| 59 % and below | F |

1. Proposed Course Schedule

|  |  |  |
| --- | --- | --- |
| **Week & Date** | **Topic** | **Assignments / Readings / Papers / Exam**  **Due Dates** |
| **1 8/25** | Foundations of Financial Analytics | Read chapters 1, 2 & 3  Weekly Discussion  Written assignments Due 8/31 |
| **2 9/1** | Data Preparation and Probability Fundamentals | Read chapters 4 & 5  Weekly Discussion  Written assignments Due 9/7 Read |
| **3 9/8** | Statistical Inference for Financial Analysis | Read chapters 7  Weekly Discussion  Written assignments Due 9/14 |
| **4 9/15** | Modeling Relationships with Linear Regression | Read chapters 8  Weekly Discussion  Written assignments Due 9/21 |
| **5 9/22** | Time Series Analysis and Forecasting | Read chapters 9  The Regression Face-Off  Weekly Discussion  Written assignments Due 9/28 |
| **6 9/29** | Predictive Analytics | Read chapters 10 & 11  Weekly Discussion  Written assignments Due 10/5 |
| **7 10/6** | Spreadsheet Modeling | Read chapters 12 & 13  Weekly Discussion  Written assignments Due 10/12 |
| **8 10/13** | Mastering Financial Decisions | Read chapters 17  Weekly Discussion  Written assignments Due 10/18 |

1. Course Evaluation

At the end of this course, students are **strongly** encouraged to complete the course evaluation that will be distributed to them via email.

1. University Policies

**Student Access Services Policy** (required)**:**

Avila University views disability as an important aspect of diversity, and is committed to providing equitable access to learning opportunities for students with verifiable disabilities (e.g. mental health, attentional, learning, chronic health, sensory, physical, etc.). If you are a student who has (or may have) a disability, please contact the Student Access Office to engage in a confidential conversation about the process for requesting reasonable accommodations in the classroom or other university settings. Students are encouraged to register with the Student Access Office as soon as they begin their coursework but may register at any point during their studies. Accommodations, however, are not provided retroactively. Students may contact the Student Access Office by email ([SAO@Avila.edu](mailto:SAO@Avila.edu)), telephone (816-501-3606), or by stopping by the office located in the Hodes Center for Student Excellence--lower level of Carondelet Hall (Building #8). Students may also learn more about the Student Access Office by visiting the following website: <https://www.avila.edu/avila-life/sleptiza-center-for-student-excellence/student-access-office/>

**Title IX** (required)

Under Title IX, students have a right to an educational environment free from gender/sex discrimination and harassment.  Avila University is committed to everyone’s academic success and has many support services for students.  You can find more information about Title IX at: [www.avila.edu/avila-life/title-ix/](http://www.avila.edu/avila-life/title-ix/)

**Student Support Services** (required)

Avila students will find academic, personal, and holistic support designed to enhance and further their growth. Located in Hodes Center (Building #8), the Center for Student Excellence offers a multitude of student services. For a comprehensive listing of services and contact information, please click on the following link: <https://www.avila.edu/wp-content/uploads/2024/07/Student-Resources-710-1-.pdf>

**Academic Honesty Policy** (required)

Avila University opposes cheating and plagiarism since Academic integrity is a fundamental value for the University community of students, faculty, and staff. It should be clearly understood that academic dishonesty is not tolerated and incidents of it will have consequences. The policy of Avila University as defined in the Catalog concerning academic dishonesty will be applied for this course. Academic dishonesty can occur in many forms, such as:

* **Plagiarism:** the use of another’s words, ideas, data, or product without appropriate acknowledgement, such as copying another’s work, presenting someone else’s opinions and theories as one’s own, or working jointly on a project and then submitting it as one’s own.
* **Cheating:** the use or attempted use of unauthorized materials, information, or study aids; or an act of deceit by which a student attempts to misrepresent academic skill or knowledge; unauthorized copying or collaboration.
* **Fabrication:** intentional misrepresentation or invention of any information, such as falsifying research, inventing or exaggerating data, or listing incorrect or fictitious references.
* **Collusion:** assisting another to commit an act of academic dishonesty, such as paying or bribing someone to acquire a test or assignment, taking a test or doing an assignment for someone else, or allowing someone to do these things for one’s benefit.
* **Academic Misconduct:** the intentional violation of college policies, such as tampering with grades, misrepresenting one’s identity, or taking part in obtaining or distributing any part of a test or any information about the test. If a student is in doubt regarding standards of academic honesty in a course or assignment, he or she should consult the faculty member responsible for that course or assignment before submitting the work.

A student’s lack of understanding is not a valid defense to a charge of academic

dishonesty.

**Diversity Statement** (required)

Avila University is committed to helping you do your best work. Our promise is to champion diversity, build an inclusive culture and learning experience, and to do our part in creating an equitable classroom. The diversity that students bring to this class is viewed as a resource, strength, and benefit to our expanded learning.

**Tutoring** (required)

Free in-person and online tutoring is available for this course through Academic Success and Tutoring Services, and support for writing assignments is available through the Writing Center. To see the current tutoring schedule, visit <https://www.avila.edu/avila-life/sleptiza-center-for-student-excellence/tutoring-services/> or check campus monitors. You can make appointments in advance through the Navigate app or by writing to [Tutoring.Center@avila.edu](mailto:Tutoring.Center@avila.edu) or [WritingCenter@avila.edu](mailto:WritingCenter@avila.edu).

**Syllabus Change Policy** (required)

This syllabus may be modified at any time by the instructor. The class will be informed of any changes; however, it is each student’s responsibility to ensure they are aware (e.g., by checking email, attending class, monitoring Canvas, etc.) of changes.

**Family Educational Rights and Privacy Act (FERPA)** (required)

FERPA is a federal law designed to protect the privacy of student education records and is enforced by the U.S. Department of Education. In essence, the act states that 1) students must be permitted to inspect their own “education records” and 2) “school officials” may not disclose personally identifiable information about a student without written permission from the student. For further information on FERPA, please see <https://www.avila.edu/registrar-office/ferpa/>.

1. CIPGS Course Policies

**Online Course Attendance Policy**

* Attendance in an online course is defined as active participation in an academically-related activity. At least one academically-related activity should be conducted each week. Merely logging in or communicating with the instructor does not constitute attendance. You must complete at least one course assignment, quiz, etc., in order to be counted present for that week. Non-attendance can impact your financial aid.
* Attendance at every course session is mandatory. Because the classes meet in   
  accelerated sessions, each session consists of intensive study. Missing more than

one class may result in a drop of up to one full grade letter. More than 3 absences may result in a failing grade or being administratively dropped from the course. If you have an extreme and verified emergency, please contact your instructor. It is your responsibility to contact your instructor to make arrangements.

* If you are unable to attend multiple course sessions, it is your responsibility to drop or withdraw from the course. You should contact your advisor for a drop slip. To avoid financial penalty, you will need to drop a course before it begins.
* Attendance at all course sessions is a minimum requirement. Students are also   
  expected to participate and maintain a professional demeanor. If you have concerns or need assistance, please make an advising appointment with your advisor.
* Every Monday morning, during the term, the instructor will log attendance by checking that each student has completed an academically-related activity from the previous Monday through Sunday by the weekly due date established for that activity (e.g., an assignment, exam, etc.). If s/he has, then s/he would have “attended” that week.  If s/he has not, s/he will be recorded as “absent” that week.  This information will be used in determining if a student is failing a course. (Please see below.)

**Academic Attendance Requirements for Distance Education Courses**

A student’s academic attendance in a distance education course will be documented by the course instructor through the student’s active participation and attendance in academically-related class activity related to the student’s course of study. Please note that logging into a distance education course is not sufficient to demonstrate academic attendance. Examples of acceptable evidence of academic attendance and attendance in an academically-related activity in a distance education course at Avila include, but are not limited to:

* Student submission of an academic assignment
* Student submission of an exam
* Documented student participation in an interactive tutorial, webinar or other interactive or computer-assisted instruction
* A posting by the student showing the student’s participation in an online study group that is assigned by the instructor
* A posting by the student in a discussion forum showing the student’s participation in an online discussion about academic matters
* An email from the student or other documentation showing that the student initiated contact with the instructor to ask a question about the academic subject studied in the course or otherwise interacted with the instructor about academic matters

If a student participates in an orientation prior to the start of an Avila distance education course, this participation will not qualify as attendance in an academically-related class activity.

**Netiquette**

Although it is not expected to be a problem in postsecondary classes, students are asked to behave in the discussions and other class interactions in a professional and civil manner. If you are in doubt, do not post it! Instructors reserve the right to remove any postings deemed inappropriate, unprofessional, or otherwise distracting from the course.

Please note that when communicating online with your instructor or peers proper “netiquette” must be applied. As online communication does not allow us to assess one another’s intentions or responses through gestures, facial expressions and other non-verbal communication elements, appropriate and professional use of online writing is crucial in showing respect to one another and preserving our online learning community. Some reminders of appropriate and professional netiquette are as follows:

* Use appropriate manner of address (“Hi John”) when starting online interaction.
* Use polite and professional tone in your writing.
* Remember that using all capital letters in online communication is ‘read’ as shouting and can be considered rude or abusive by recipients of your message.
* Avoid overindulging in emoticons as they do not ameliorate rude or sarcastic speech online.
* Respect the copyright on all materials that you use or pass along to others. Always use citations when quoting another person’s ideas, expressions and research findings.

**Artificial Intelligence (AI) Policy**

In this course the use of AI tools may be used to generate general ideas and to assist in brainstorming activities for those assignments specified in the course syllabus.  Please be aware that AI-generated resources support your thought processes but do not replace your independent creative thinking.  AI-generated materials must be properly cited like any other reference and are not a substitute for your original written work (See [APA guidance](https://www.apa.org/pubs/journals/resources/publishing-tips/policy-generative-ai#:~:text=APA%20policy%20states%20that%20authors,specific%20purposes%20such%20as%20editing.) on citing the use of AI tools and [how to cite ChatGPT](https://apastyle.apa.org/blog/how-to-cite-chatgpt?_gl=1*1ssy43k*_ga*OTgzMjA1MDUuMTcxMTEyMjA1OA..*_ga_SZXLGDJGNB*MTcxMTEyODMyNS4yLjEuMTcxMTEyODQ4Ny4wLjAuMA..) ). The misuse of AI tools may be considered a violation of the Avila University [Academic Honesty](https://catalog.avila.edu/content.php?catoid=21&navoid=887#academic-honesty) policy and the [Student Code of Conduct](https://catalog.avila.edu/content.php?catoid=21&navoid=894#student-code-of-conduct) since the work submitted is not your original work.

**ARTIFICIAL INTELLIGENCE (AI) PLAGIARISM POLICY**

In the event that a CopyLeaks report indicates 50% or more AI-generated content in a student's assignment, may take the following actions:

1. Assign a score of zero and notify the student.
2. Students may be allowed to redo the assignment for partial or full credit, provided it is resubmitted within a specified timeframe.
3. After informing the student of the sanction, the instructor may (if this is a first offense) notify the CIPGS Associate Vice-President of Academic Accountability, Assessment and Innovation as to the nature of the offense and the sanction imposed. After the student’s second offense, the instructor must notify the AVP.
4. For the third reported offense of cheating or plagiarizing, the student will be required to appear before the Academic Progress Committee. After hearing the case, this board has the right to impose a further sanction beyond that imposed by the instructor. For repeated offenses, the maximum sanction available to the Academic Progress Committee is to dismiss the student from the University.

**Late Assignments:**

All assignments must be turned in on-time to receive credit. Late assignments are not accepted unless students have made alternate arrangements with the professor prior to the due date. Late assignments will be reduced by 10% per day late. No assignment will be accepted three days beyond the due date. Please be sure and leave enough time to complete your assignments. Students who wait until Sunday to complete all assignments will not be granted exceptions for late assignments.

**Inclement Weather Policy**

In the event of inclement weather when Avila University indicates the physical campus is closed, this course will be in session online as scheduled.

Note: Grading Rubrics are on the following pages, if your professor doesn’t use their own.

Assignment Rubric

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Exemplary  Points | Satisfactory  Points | Unsatisfactory  Points | Points  Earned |
| **Fulfillment of Assignment Requirements** | Fulfills all major requirements of the task, including meeting the minimums for length and source usage. Responds to the prompt appropriately and insightfully and shows excellent ability to integrate key course concepts. | Fulfills all major requirements of the task, including meeting the minimums for length and source usage. Responds to the prompt appropriately and shows adequate grasp of key course concepts but demonstrates little insight or ability to build upon and integrate content. | Missing major assignment requirements. Responds to the prompt inappropriately and/or shows poor grasp of key course concepts. | x/25 |
| **Argument/ Main Point** | Organizes ideas around an original and insightful argument or main point. | Organizes ideas around an argument or main point that mostly reiterates required readings and/or lecture content OR the response contains many ideas, but none are substantially developed enough to provide focus. | Advances no arguments or key ideas, mostly summarizes content from readings or lectures OR presents ideas in a disorganized and incoherent fashion. | x/25 |
| **Development** | Contains at least 2 examples, whether taken from lesson material, sources or personal experience, that substantially support the main point. Response shows a clear, coherent line of reasoning throughout. | Contains at least 1 example, whether taken from lesson material, sources or personal experience, that adequately support the main point. Response shows a clear line of reasoning throughout, though some gaps in reasoning may exist. | Contains no supporting examples. Response contains little reasoning and/or major coherence problems. | x/25 |
| **Language and Grammar** | Appropriate vocabulary and expression used throughout, minimal ambiguities in wording, no grammatical or punctuation errors that interfere with reader comprehension. | Mostly appropriate vocabulary and expression used throughout, occasional ambiguities in wording, no more than 3 grammatical or punctuation errors that interfere with reader comprehension. | Vocabulary frequently inappropriate, frequent ambiguities or incoherent statements, more than 3 grammatical or punctuation errors that interfere with reader comprehension. | x/15 |
| **Citations** | Complete reference with minimal to no punctuation errors. | Reference listed, but there is missing information. | Missing reference. | x/10 |

Discussion Rubric

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Objectives | Unacceptable  Points | Below Average  Points | Acceptable  Points | Above Average  Points | Exemplary  Points |
| **Quality of initial posting**  x/6 | **Points**  No initial posting | **Points**  Response was not on topic, the message was unrelated to assignment, and post was less than 99 words. | **Points**  The initial posting did not adequately address the question posed in the forum; superficial thought and preparation. | **Points**  Initial posting demonstrates sincere reflection and answers most aspects of the forum; full development of concepts is not evidenced. | **Points**  Initial posting reveals a solid understanding of all aspects of the task; uses factually and relevant information; **AND** the length of the posting is 100-200 words in length. |
| **Responses to classmates**  x/6 | **Points**  Did not post any responses to other students in this forum | **Points**  Posted a response to only one other student’s initial posting. | **Points**  Responds to at least two other students’ initial posting; posts shallow contributions to discussion; responses neither promoted nor enriched further discussion. | **Points**  Responds to at least two other students’ initial postings; provides comments and new information to other posts; not all responses promote further discussion of the topic. | **Points**  Responds to at least two other students’ initial postings **AND** demonstrates analysis of others posts; extends meaningful discussions by building on previous posts. |
| **Language and Grammar**  x/.5 | **Points**  No postings for which to evaluate language and grammar | **Points**  Poorly written initial posting and responses including frequent spelling, structure, and/or grammar errors and/or the use of slang. | **Points**  Communicates in friendly, courteous, and helpful manner with some spelling, grammatical, and/or structural errors. | **Points**  Contributes valuable information with minor grammatical or structural errors. | **Points**  No spelling, structure, or grammar errors in any posting. Contributes to discussion with clear, concise comments. |