INDIANA TECH

Course Syllabus Cover Page – Spring 2021

Course Number: MBA 5400

Course Title: Statistical Learning and Analytics

Course Description:

This course helps managers build statistical frameworks and ways of thinking when processing large amounts of information. Applications of statistical learning, including the degree to which conclusions can be generalized and the implication of statistical relationships, will be explored and applied to various business situations. The focus of the course is building functional models and drawing conclusions from data for organizational learning and decision making.

Prerequisites: None.

Credit hours: 3

Learning Outcomes:

Upon the successful completion of this course, students will be able to:

1. Evaluate the concepts, uses, and limitations of models.
2. Examine the foundations of statistical learning models and the four main types of mathematical models.
3. Distinguish between data dependent and data independent statistical learning models (or supervised vs unsupervised learning in ML applications).
4. Distinguish between descriptive and inferential statistics as well as parametric and no••parametricmethodologies.
5. Apply appropriate models depending on context and qualify a model's use via its validity, reliability, and training error.
6. Create a management cycle for a model with implications for AI and ML.
7. Run basic statistical calculations using Excel and Python.

INDIANATECH

College of Professional Studies

MBA 5400 Statistical Learning & Analytics
Online Syllabus Course Content

Instructor Information

Please see Professor Profile at the Blackboard instructional site.

Course Schedule

Please see Course Schedule in the Syllabus & Schedule area of the Blackboard instructional site.

Online Course Policies

All of the online courses taken by students are required to follow the policies posted online at http://online.indianatech.edu/tech-policies/policies/. Please review the posted policies carefully. If you are unable to abide by the policies listed, please contact the Warrior Information Network (WIN) at 888.832.4742 and request to withdraw from this course.

Textbook / Course Resources

Main etext (accessible from within the course):
James, G., Witten, D., Hastie, T., & Tibshirani, R. (2017). *An Introduction to Statistical Learning with Applications in R*. Springer. Retrieved from https://www.statlearning.com/
Supplemental material, articles, and links are found within the modules of the course.

Grading Events & Grading Criteria

Unless otherwise specified, all assignments must be submitted via Blackboard.

Grading Events

Week / Module	Description	Points Possible
1	Course Preparation Quiz	25
1	Exploration Discussion	25
1	Analysis Activity	35
1	Technical Skills Activity	30
1	Statistical Skills Activity	30
1	Capstone Development	25
1	Reflection	20
2	Exploration Discussion	25
2	Analysis Activity	35
2	Technical Skills Activity	30
2	Statistical Skills Activity	30
2	Capstone Development	25
2	Reflection	20
3	Exploration Discussion	25
3	Analysis Activity	35
3	Technical Skills Activity	30
3	Statistical Skills Activity	30
3	Capstone Development	25
3	Reflection	20
4	Exploration Discussion	25
4	Analysis Activity	35
4	Technical Skills Activity	30
4	Statistical Skills Activity	30
4	Capstone Development	25
4	Reflection	20
5	Exploration Discussion	25
5	Analysis Activity	35
5	Technical Skills Activity	30
5	Statistical Skills Activity	30
5	Capstone Development	25
5	Reflection	20
6	Exploration Discussion	25
6	Technical Skills Activity	30
6	Statistical Skills Activity	30
6	Capstone Presentation	150
6	Reflection	20
	Total Points Possible	**1,105**

Competency Based Grading -> Not Perfectionist Based Grading

This course offers you the ability to obtain up to 1105 outlined points. However, you will only be graded out of 1,000 points; anything over 1,000 is essentially extra credit. Your goal is to display competency in software tools, not necessary get every single point available to you.

Grading Scale

The following grading scale will be used to assign a grade at the end of the course:

Percentage Achieved (out of 1000 points)	Minimum Points Necessary	Grade
93% or above	930	A
90% or above	900	A-
87% or above	870	B+
83% or above	830	B
80% or above	800	B-
77% or above	770	C+
70% or above	730	C
Below 70%	0	F

Late Work Policy

Due to the accelerated nature of this course, managing your time, and submitting assignments by the stated due dates, are key to your academic success. However, we realize that "life happens" and therefore have afforded a bit of flexibility. Please note the following policy regarding submitting late work in this course:

- Weekly discussions require you to post your initial post no later than Thursday at 11:59pm each week, and posting feedback to two (2) classmates no later than Sunday at 11:59pm each week. **Due to the highly interactive nature of discussions, late posts will receive zero (0) credit.** Please note that if you miss the deadline for your initial post, you will still have the opportunity to post feedback to classmates by the Sunday due date.
- **For all other assignments in this course, work submitted past the due date will be subject to a grade deduction of 10% of the assignment's point value per calendar day.** (*For example, for a 50 point assignment turned in 2 days late will result in a 20% or 10 point) deduction off of the earned grade for that assignment.*
- **All course assignments must be submitted by the last day of class in the current session.**

In the case of extenuating circumstances, **students are encouraged to contact their instructor as soon as possible** to address their individual situation. Instructors will use their discretion in granting exceptions to this policy. For advice and support in addressing exceptions, students are welcome to work with their Student Success Advisor.

Students experiencing life circumstances that disrupt their studies for more than one week should consult with their instructor and their Student Success Advisor about possible options.

Helpful hints for online students:

- At the beginning of the course, PRINT your course schedule and keep it handy. Note important dates in your personal calendar so that you are reminded of due dates.
- Always back up your work, and have a plan for submitting assignments, even in the case of computer problems or lost Internet access. Before the course begins, consider where you might work if your computer has an issue, or if you have issues with your Internet access.
- If you have technical (Blackboard) issues while submitting an assignment or taking a quiz or exam on Blackboard, please reach out to our Distance Learning Office onlinesupport@indianatech.edu for technical assistance.
- Communication is key! Please don't hesitate to ask if you have questions. Communicate regularly with your instructor and with your Student Success Advisor.

Incompletes

If you are unable to complete the requirements for this course due to extenuating circumstances, an Incomplete grade (I) may be granted if you meet the general guidelines stated below.
General Guidelines for submitting a course incomplete request:

- More than 50% of the course session has elapsed.
- The student has encountered an unexpected situation that is beyond his or her control.
- The student is
    - in good academic standing -- up-to-date on all of the course assignments and has at least an overall passing grade,
    - able to complete all of the remaining coursework within a session (5 weeks for a undergraduate course and 6 weeks for a graduate course) that immediately follows the session the student is currently enrolled, and
    - able to provide support documentations to substantiate the need for extra time should a session is not enough to complete the course requirements.

If an Incomplete is granted, the instructor will set a deadline for all work to be completed. **The deadline cannot go past one (1) session.** All incomplete grades and deadlines are subject to approval by the designated University authority.

Course Related Communication

Online courses are conducted in an accelerated format. Timely communication is very important. When receiving emails from your classmates or instructor, please respond as soon as you can.

Students are REQUIRED to use their Indiana Tech email account for all course related communication. The most direct, and effective, way to email your course instructor and classmates, is by using the Send Email function within the Blackboard course site. When you use the Send Email function, you automatically receive a carbon copy of the email you sent. In the

event when you need to substantiate your claim that you did email your classmates or instructor, you can show that carbon copy to the person(s) who requested it.

Please note that Blackboard only permits you to send email, it does not provide you with the check email function. All of the emails your classmates and instructor send to you will be delivered to your Indiana Tech email account. You are strongly encouraged to check your Indiana Tech email account regularly, preferably several times a week, to minimize the likelihood of miscommunication.

The University policy requires each online course instructor to respond to a student's email within 24 hours. Unless there is an extraneous situation that prevents the instructor from following this rule, you can expect to hear from the instructor within 24 hours. If you don't receive a reply within 24 hours, please do not hesitate to follow up with another email or forward the carbon copy of the email you sent to OnlineSupport@IndianaTech.edu with a note "Please help. It's been 24 hours and I have not heard from my instructor" and the University support staff will act on your behalf to contact your course instructor.