**Proposal for the Honors Thesis Project**

**(Required for Honors 3101, before beginning Honors 4V87)**

**Note to the student:** With the help of your thesis director/mentor, please carefully fill in all the information requested below. Submission of this contract by the deadline listed on the HON 3101 syllabus is a graded requirement of the course. Thesis proposals must be approved by the Honors Program staff to be finalized. Please type this assignment and submit it to the Honors (either to MH 203.4, or by email to [thesis@baylor.edu](mailto:thesis@baylor.edu)) and the UNSC offices (for UNSC majors only).

**STUDENT NAME AND BU ID Caleb Skinner 892596849**

**CURRENT LOCAL ADDRESS OR CAMPUS BOX # One Bear Place #84165 Waco, TX 76798**

**SEMESTER/YEAR** during which you will fist take HON 4V87 (Honors Thesis I) Fall 2023

**CONFIRMED THESIS DIRECTOR Dr. Sturdivant**

**THESIS DIRECTOR’S ACADEMIC DEPARTMENT Statistics**

**1.) Prepare a proposal for your planned thesis.** This proposal should include (a) a preliminary title, (b) a thesis statement, and (c) 2-3 sentences about each planned chapter/section. Staple the typed proposal to this form.

**2.) Does your thesis require data collection? \_\_\_\_Yes?\_\_\_ If so, what is the status of your research?**

I have secured a dataset that includes every tennis match from all the grand slams since 2011.

**3.) Using your best judgment, plan how your work will proceed to finish in a timely manner. Provide target dates for completing your sections, renaming the sections as needed.**

|  |  |
| --- | --- |
|  | Target completion date: |
| Chapter 1: | September 1 |
| Chapter 2: | December 1 |
| Chapter 3: | January 1 |
| Chapter 4: | February 1 |
| Other (be specific) |  |
| Intro/Conclusion | March 1 |

**4.) Target Defense Date: April 15, 2024**

(Note that the last day to defend a thesis is usually about a month prior to the last day of classes.)

Please list any recent or current courses you (the student) have taken, or will take, related to the area of your proposed research: Probability and Statistics (STA 3381), Regression Analysis (STA 3386), Econometrics (ECO 4347), Bayesian Data Analytics (STA 4360), Computational Statistics (STA 4373), Intro to Biostatistics (STA 4372)

Has the confirmed thesis director supervised a completed Honors-thesis project in the past? **No**

NOTE: Students must provide their thesis director a copy of the thesis syllabus when it is available at the start of the semester.

***Thesis Director Agreement:***

If this proposal is approved, I will aid the Honors student by (1) helping establish focused goals and limitations of the project early in the thesis-writing process; (2) overseeing the student’s research and/or experimentation, and (3) offering timely guidance throughout the writing process. I will also serve as the chair of the thesis committee, before which the student will eventually defend his or her completed project.

**AGREED:** Rodney Sturdivant May 6, 2023

Thesis Director’s Signature Date

**AGREED:** Caleb Skinner May 5, 2023

Student’s Signature Date

**APPROVED:**

Honors Program Representative Signature Date

Proposal for Planned Thesis

Title: Psychological Momentum of a Tennis Match

Thesis Statement: I’m still in the process of discerning the thesis exactly, but I am hoping that through an analysis of different variables, I can create a variable that estimates the psychological momentum of a tennis match. This would affect the probability of winning a point and would be adjusted over time.

Chapter 1: Data Summary – So far, I’ve been summarizing the dataset and discovering interesting leads. This chapter would provide lots of visualizations. I also will probably need to explain the game of tennis and give some non-statistical assumptions about the game.

Chapter 1.5?: Past Research – I looked through several articles that have covered past research on psychological momentum in tennis and table tennis matches. This chapter would cover those summaries and analyze their findings. I could also see the benefit of merging this chapter with another.

Chapter 2: Methodology – this chapter will cover the process I undergo to create the models and test their significance. I am still mulling the options thus far, but this chapter of the thesis will explain the models and tests and give a more theoretical understanding of their backing.

Chapter 3: Building Models – this chapter would show the models I have created with visualizations and demonstrate their significance with tests. I’ll spend some time explaining their immediate implications and document the progression of the study. I am expecting this section to have multiple models with multiple findings.

Chapter 4: Analysis – In this chapter, I will analyze the models and discuss their more complicated implications. I may even choose a match or two to run through the model and provide examples of the model’s findings.

Chapter 5: Conclusion: In this chapter, I will summarize the report’s findings and compare it with the past research that I have read. I will give ideas for future research and even other models I could run the data through. I will also summarize my conclusions.