

Syracuse University

Football Analytics Blitz

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Creating a Defensive Game Plan Against the Kansas City Chiefs

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A major component of winning football games is developing a comprehensive game plan. NFL coaches, scouts, analytics staff, and other front office members spend countless hours developing game plans to defeat their opponent on a weekly basis. This prompt asks you to do the same: your task will be to produce a defensive game plan against the high-octane offense of the Kansas City Chiefs. Along with developing general strategies to use against the Chiefs offense, your team will select two defenses from the list of teams who did not play against the Kansas City Chiefs in the 2021 season (that list includes: Miami Dolphins, New England Patriots, New York Jets, Houston Texans, Indianapolis Colts, Jacksonville Jaguars, Chicago Bears, Detroit Lions, Atlanta Falcons, Carolina Panthers, New Orleans Saints, Tampa Bay Buccaneers, Los Angeles Rams, Seattle Seahawks, Minnesota Vikings, San Francisco 49ers, Arizona Cardinals) and provide analysis into what would be included in those teams' specific game plan they should use against the Chiefs.

The primary data for this case is provided by Pro Football Focus and is detailed in length below. While your game plan can be as detailed as you would like it to be, at a minimum you are expected to include optimal coverage schemes (cover 1, cover 2, etc.), blitz rates, and defensive personnel usages (15% 4-3-4, 20% 4-2-5, etc.). To form comprehensive game plans, your team should first identify tendencies of the Chiefs offense such as run/pass rate, personnel usage, play action rate, and any other factors you believe are important to know if your defense was facing the Chiefs. Groups that frame their game plans in a clear and holistic strategy will likely outperform those that do not. Utilize this general information on the Chiefs offense to construct optimal team-specific defensive responses.

In addition to creating general strategies for two different defenses, you are given various game situations below for which you should produce specific play calls for each of the two. Your play call for each situation should include a specific scheme for each level of the defense (defensive line, linebackers, and secondary). This could include how many pass rushers, how many drop back into coverage, and the specific coverage played, among other things.

Each of the situations below should be evaluated based on the time of game, down and distance, score differential (when applicable), and offensive personnel of the Chiefs. The following are specific situations you should address:

- Situation 1 (starting a game): 15:00 left in the 1st Quarter with 1st and 10 on the Chiefs 25-yard line with the Chiefs in 11 personnel (1 running back, 1 tight end, and 3 wide receivers)
- Situation 2 (4th and short): 10:44 left in the 2nd Quarter with 4th and 2 on the 50-yard line with the Chiefs in 12 personnel (1 running back, 2 tight ends, and 2 wide receivers)
- Situation 3 (two-minute drill): 1:36 left in the 2nd Quarter with 2nd and 9 on the Chiefs 40-yard line with the Chiefs in 11 personnel (1 running back, 1 tight end, and 3 wide receivers)
- Situation 4 (goal line): 8:12 left in the 3rd Quarter with 3rd and Goal on your teams 2-yard line with the Chiefs in 13 personnel (1 running back, 3 tight ends, and 1 wide receiver)

- Situation 5 (game winning drive opportunity): 0:54 left in the 4th Quarter with 1st and 10 on the Chiefs 25-yard line – no timeouts – the score is tied with the Chiefs in 01 personnel (0 running backs, 1 tight end, and 4 wide receivers)

At a minimum, teams are expected to include both the general game plan and situation-specific strategies for each of their two defenses. Teams should make sure to emphasize the differences in their game plans. Why do you suggest one scheme for one team and a different scheme for the other? That should be clear in your presentation. You are strongly encouraged to add other elements that would bolster your analysis. Creativity will be awarded as part of the judging process.

Data

The dataset provided includes PFF’s scheme information from the 2021 NFL Season¹. These data contain everything necessary to satisfy the requirements of this prompt. Any raw data given to you for the competition are **NOT TO BE SHARED OR PUBLISHED** on any public platform and are provided solely for the sake of this competition. The raw data **MUST** be deleted after the completion of the competition, although you are allowed to share/publish code or presentation materials. You are also welcome to supplement your analysis using data from any **public** source. Make sure to acknowledge these sources during your presentation.

The dataset included entitled “*scheme_data.csv*” contains situational, offensive scheme, and defensive scheme variables that are defined below.

Variable Name	Variable Meaning	Outcome Meanings
away_franchise_id	ID of away team	
away_team	Abbreviation of away team	
def_score_before	Was there a defensive score in the play before?	1 – Yes 0 – No
defense	Abbreviation of team on defense	
defense_franchise_id	ID of team on defense	
distance	Distance from first down	
down	Current down	0 is a kickoff
game_id	Unique game ID	
home_franchise_id	ID of home team	
home_team	Abbreviation of home team	
off_score_before	Was there a offensive score in the play before?	1 – Yes 0 – No
offense	Abbreviation of team on offense	
offense_franchise_id	ID of team on offense	

¹ Please note that Travis Kelce did not play in the Chiefs’ Week 16 game against the Pittsburgh Steelers and Tyreek Hill was lightly utilized in Week 18 against the Broncos by playing only 18% of offensive snaps

play_id	Unique play ID	
play_sequence	What number play that is in the game	
played	Play result for plays that ended the drive	DW – turnover on downs EG – end of game EH – end of half FG – field goal FGM – field goal made F – fumble FTD – fumble touchdown IN – interception INTD – interception touchdown P – punt S – safety TD – touchdown
quarter	Quarter of the game	Quarter 5 is overtime
rps	Type of play	R – run P – pass X – penalty Blank – special teams
season	Season the game occurred in	
seconds_left_in_quarter	Number of seconds remaining in that quarter	
week	Week the game occurred in	
yards_to_go	Number of yards to the endzone	
shotgun	Whether the play was in shotgun formation	1 – Yes 0 – No
pistol	Whether the play was in pistol formation	1 – Yes 0 – No
dropback_depth	Number of yards the quarterback dropped back in the pocket	
time_to_throw	Number of seconds before ball is thrown	0 means there was no throw on that play
time_to_pressure	Number of seconds before the quarterback was pressured	0 means there was no pressure on that play
play_action	Was the play a play-action play?	1 – Yes 0 – No
pass_direction	What direction the pass was thrown in	C – center L – left R – right X – no direction (such as a spike or throw away)
screen	Was the play a screen play?	1 – Yes

		0 – No
rpo	Was the play a RPO?	1 – Yes 0 – No
offense_personnel	The personnel of the offense for that play	Format is WR-FB-RB-TE
run_position	The gap that the running back ran to	
intended_run_position	The direction that the running play was supposed to go to	LE – left end LG – left guards LT – left tackle ML – middle left MR – middle right RE – right end RG – right guard RT – right tackle
run_direction	The direction the run went in	L – left R – right U – under center (sneak/kneel)
defense_personnel	The personnel of the defense for that play	Format is defensive linemen-linebackers-defensive backs
blitz	Was the play a blitz?	1 – Yes 0 – No
num_pass_rush_players	Count of pass rushing players	
coverage_scheme	The coverage scheme played by the defense	1 means the defense played cover 1, 2 means the defense played cover 2, etc.
stunt	Was there a stunt on the defensive line before the snap?	1 – Yes 0 – No
mofo_coverage_played	Middle of field coverage played	O – middle of field open C – middle of field closed
mofo_coverage_shown	Middle of field coverage shown before snap	O – middle of field open C – middle of field closed
box_players	Number of defenders in the box	
target_depth	The number of yards ahead or behind the line of scrimmage the receiver was when targeted	
motion	Was an offensive player in motion before the snap?	1 – Yes 0 – No
trick_play	Was the play a trick play?	1 – Yes 0 – No
trick_look	Did the team line up in a trick formation?	1 – Yes 0 – No

Case Requirements

You should address each of the below main topic points in your presentation. These are all aspects of your “game plan”; so in totality, your presentation should compile all of your analysis into something you would use if your team’s defense was facing the Kansas City Chiefs.

- Give a general overview of the Kansas City Chiefs Offense and their tendencies
- Build basic defensive game plans for each of your two teams that could be used to combat the Chiefs
- Provide specific defensive strategies and play calls for each of the five game situations for each of your two defenses

Judges will be focused on your approaches to these points but will also be judging you on the following criteria:

- Overall Process:
 - Clear presentation and understanding of the problem being addressed
 - Depth of statistical tools utilized to obtain results
 - Methodological soundness
 - Strength and reasonableness of conclusions and recommendations
- Creativity: Elements of personal insight beyond the requirements stated in the case
- Clarity and Communication: The organization and succinctness of your presentation. Being convincing with your results is important in impacting decision-making. Strong visualizations are expected. Presenters should be dynamic in their delivery.

It should be understood that the judges are especially knowledgeable of the game of football and are equally familiar with the questions associated with the prompt. Teams should format their presentations with this in mind to avoid including irrelevant and excessive background information that would cut into your time for presenting your analysis. The presentations are 30 minutes in total, which is comprised of 25 minutes of presentation and 5 minutes for judge Q&A.

This competition is made for undergraduate students to compete against other undergraduate students. As such, teams are prohibited from acquiring assistance from any faculty, family, or friends and students not registered on their team. In addition, teams should not contact anyone associated with an NFL team, as well as any other individual for advice on this case.

Teams are allowed to use the internet to help answer the case questions and develop their analyses but should include personal insights to their presentation. While there is analysis that could be related to this topic online, an over-reliance on outside work will be detrimental to your presentation.

Each team must submit their final presentation to footballanalyticsblitz@gmail.com by 9:00 PM EST on Wednesday February 23rd at the latest.

If you have any questions about this case, please feel free to contact Football Analytics Blitz Director of Content/Co-Founder Ben Ayers at sbayers@syr.edu.