

## PSYC 6430: Probability Assignment, Odds and Football

ECU is scheduled to play the University of Central Florida Knights in football on the 24<sup>th</sup> of September, 2020 in Greenville. Tell me what odds you think would represent a fair bet. A fair bet is one that if you took bets like that over and over many times, in the long run you would break even – that is, your winnings would equal your losses.

Express your odds in terms of ECU winning versus UCF winning.

For example:

- 1:1 odds would mean that were the game played an uncountably large number of times, ECU would win half of the time. In terms of the wager, each player would put the same amount of money into the pot and the winner would take all.
- 1:99 odds would mean that ECU would win such a game only once for every 99 times it lost such a game. In terms of the wager, if you were betting on ECU the other player would have to put into the pot 99 times as much as you were betting, and the winner would take all.
- 1:9 odds – the player betting on the Knights would have to put in 9 times as much money as the player betting on ECU.
- 1:4 odds – the player betting on the Knights would have to put in 4 times as much money as the player betting on ECU
- 2:3 odds – the player betting on the Knights would have to put in \$3 for every \$2 put in by the player betting on ECU
- 3:2 odds – the player betting on ECU would have to put in \$3 for every \$2 put in by the player betting on the Knights
- 7:3 odds – the player betting on ECU would have to put in \$7 for every \$3 put in by the player betting on the Knights
- 17:3 odds – the player betting on ECU would have to put in \$17 for every \$3 put in by the player betting on the Knights.

Do not restrict your selection to the examples given above. Give what you think would be the odds for a fair bet.

Post your answer in the Odds & Football Discussion Board in Canvas **Reply to the most recent post (I'll post first)**. That is, navigate to the last post in the forum, click Reply for that post, and then convert the odds in that post to a probability. Then indicate what odds you think would be fair. Do not convert your odds to a probability, that is for the person who responds to your post.

1. If the odds given by the previous participant were fair, **what would be the probability of ECU winning?** State your probability as a proportion, between 0 and 1, to three decimal points. [8 points for a correct response]

2. What odds do you think represent a fair bet? Do not give odds that are identical to those given by any previous respondent, even if you think them fair – tweak the odds at least a bit. For example, if a previous respondent said 1:1, and you think that fair, give your odds as something like 51:49. **Do not translate your odds into a probability – that is for the student who posts next to do.** [2 points].

This assignment is **due at noon on Friday the 18<sup>th</sup> of September.** but it is to your advantage to complete it earlier. If I have had a chance to evaluate your post prior to the time it is due, I may give you a second chance, with only a two point deduction for an incorrect initial response. Of course, the later you wait to make your first response, the less likely you are to get, if needed, a second chance.

In 2019 ECU won 4 games and lost 8 games. [CBS](#) ranked them 117<sup>th</sup>. UCF won 10 games and lost 3. CBS ranked them 15<sup>th</sup>.

#### Example Posts from Past Semesters

1. [Newman](#) here. Langschlanger believes that the odds of ECU winning are 4 to 7. This translates to a probability of  $4/(4+7) = .364$
  2. I think the fair bet odds of ECU winning are 5 to 3.
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1. Tolman here. Newman believes the odds of ECU winning are 5 to 3. This reflects a probability of  $5/(5+3) = .625$ .
  2. In my mind the fair bet odds of ECU winning are 46 to 64.

#### Addendum

If the odds of an event happening are A to B, then the corresponding probability is A divided by (A + B). For example, if the odds were 13 to 3 (which could also be stated as  $13/3 = 4.333$ ), the probability would be  $13/16 = .8125$ .

To convert from probability to odds, where P is the probability, calculate P divided by (1 - P). For example, if the probability is .8125, then the odds are  $.8125/(1 - .8125) = .8125/.1875 = 4.333$