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Jennifer L Sinclair*, 1000 University Center Lane, Lawrenceville, GA 30043. *Music composition utilizing probabilistic methods as an applied project in an upper level mathematical statistics course.*

A Markov chain (discrete time version of Markov process) is a mathematical model depending on randomness and passage of time. A fundamental property of Markov processes is the memory-less property, which implies the conditional probability of the process taking on a particular value at time n only depends on the location at time $n-1$, disregarding the previous observations at times $0, 1, \dots, n-2$. This work addresses a creative and potentially artistic classroom activity related to music. Historically, probabilistic music composers used rolled dice to choose the next note, which typically results in a scattered array of disorganized notes. Markovian music composition appeared in the twentieth century and takes into consideration the current location of a note to choose the next note and can be designed to consider note location, scale, timing, and more. During Fall 2015, junior and senior level students engaged in a research approach to Markovian music composition at a public regional college. This presentation addresses a description of the project and best practices in the classroom in addition to a presentation of the results of pre and post assessments and attitudinal surveys. (Received September 16, 2016)