1145-VL-2042   **Everett Sullivan*** (`esullivan@lclark.edu`). *Systems of Linear Recurrences with Non-Constant Coefficients.*

When creating a linear recurrence for a sequence it can be useful to think of it not as a single sequence, but a system of sequences which relate to each other. This gives rise to a system of linear recurrences which can be used to find the specific linear recurrence that describes the sequence. If every linear recurrence is homogeneous and has only constant coefficients then there is a process to extract the recurrence for the original sequence. We show that that the requirement that all coefficients be constant can be dropped while still being able to explicitly find the desired recurrence. (Received September 24, 2018)