Possible graduate student work:
1. Prepare a PowerPoint presentation on CHILD. This would include a reconstruction in the get links on course website.
2. Prepare a PowerPoint on BioLE. This would require also writing a good report from primary sources.
3. Choose one paper from a special section of Integrated Environmental Assessment and Management (Vol. 17, no. 1, January 2021): Applications of Bayesian Networks for Environmental Risk Assessment and Management.
3.2.7 Dynamic Bayesian Networks [507]

for the 7-day infected with model (with or without 2-day memory)
1) If the structure of each time slice is the same and the temporal links are the same, we have a repetitive temporal model.

2) If the CPTs are also the same, you have a Dynamic Bayesian Network (DBN).
A HMM is a DBN where the Markov property holds: the past has no impact on the future on the future given the present.

This DBN is not a HMM

This DBN is an HMM
4) A Kalman filter is a HMM in which exactly one variable has relations outside the time slice.

This HMM is a Kalman filter.

This HMM is not a Kalman filter.

5) A Kalman filter consisting of exactly one variable in each time slice is a Markov chain.

This Kalman filter is a Markov chain.
Any DBN can be transformed into an HMM by extending the state space of the hypothesis variables, thus summarizing the relevant past within the present.

This notation (which is similar to that of plate diagrams) is not used in HMMs.