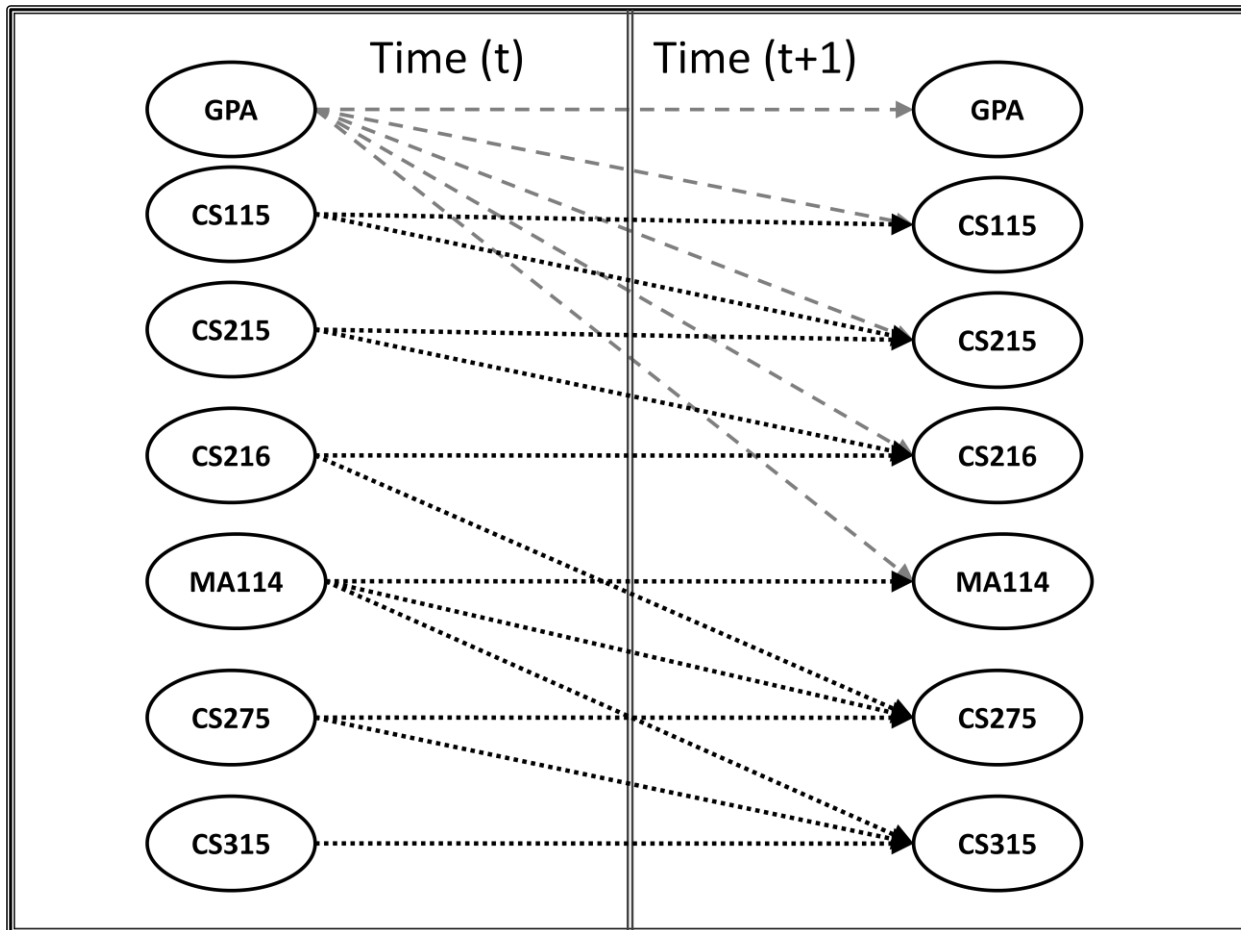Assumptions for Model:

Each class variable can have the following values: (G)ood, (P)ass, (F)ail, and (N)ot Taken.

The GPA node can have the following values: (G)ood, (P)ass, (L)ow.

We are using the following influence patterns:

For now we will only reward for a Good or Passing grade in EVERY class. Each good is worth 3, each passing is worth 1 and failing is -3.

Notice that everything has GPA, the previous class, and the current class as the prior (except 115, which will simply have no prior). We will use the following CPT's (note that these are organized by GPA prior for easier parsing).

Assumptions:

(1) There is a 3% chance of Current'=NotTaken if Current=NotTaken. This corresponds to a drop in the course. If Current != NotTaken then there is a PR(0) of getting NotTaken, as per university rules.
(2) You will not decrease in score (ie. Current=Good then Current'=Good with PR(1.0)). This is as per university rules. It is not possible to get a lower score on a retake.

Set of CPT's for GPA indicator courses:

Prior Probability			Observed Probability (Current')			
GPA	Current	Previous	G	P	F	N
G	G	G	1.00	0.00	0.00	0.00
G	G	P	1.00	0.00	0.00	0.00
G	G	F	1.00	0.00	0.00	0.00
G	G	N	1.00	0.00	0.00	0.00
G	P	G	0.95	0.05	0.00	0.00
G	P	P	0.95	0.05	0.00	0.00
G	P	F	0.95	0.05	0.00	0.00
G	P	N	0.95	0.05	0.00	0.00
G	F	G	0.25	0.70	0.05	0.00
G	F	P	0.10	0.80	0.10	0.00
G	F	F	0.05	0.40	0.55	0.00
G	F	N	0.05	0.40	0.55	0.00
G	N	G	0.90	0.05	0.02	0.03
G	N	P	0.70	0.22	0.05	0.03
G	N	F	0.50	0.37	0.10	0.03
G	N	N	0.34	0.33	0.30	0.03

Prior Probability			Observed Probability (Current')			
GPA	Current	Previous	G	P	F	N
P	G	G	1.00	0.00	0.00	0.00
P	G	P	1.00	0.00	0.00	0.00
P	G	F	1.00	0.00	0.00	0.00
P	G	N	1.00	0.00	0.00	0.00
P	P	G	0.85	0.15	0.00	0.00
P	P	P	0.85	0.15	0.00	0.00
P	P	F	0.85	0.15	0.00	0.00
P	P	N	0.85	0.15	0.00	0.00
P	F	G	0.20	0.75	0.05	0.00
P	F	P	0.05	0.85	0.10	0.00
P	F	F	0.03	0.42	0.55	0.00
P	F	N	0.03	0.42	0.55	0.00
P	N	G	0.77	0.15	0.05	0.03
P	N	P	0.55	0.32	0.10	0.03
P	N	F	0.22	0.55	0.20	0.03
P	N	N	0.20	0.40	0.37	0.03

Prior Probability			Observed Probability (Current')			
GPA	Current	Indicator	G	P	F	N
L	G	G	1.00	0.00	0.00	0.00
L	G	P	1.00	0.00	0.00	0.00
L	G	F	1.00	0.00	0.00	0.00
L	G	N	1.00	0.00	0.00	0.00
L	P	G	0.5	0.5	0.00	0.00
L	P	P	0.5	0.5	0.00	0.00
L	P	F	0.5	0.5	0.00	0.00
L	P	N	0.5	0.5	0.00	0.00
L	F	G	0.10	0.70	0.20	0.00
L	F	P	0.05	0.65	0.30	0.00
L	F	F	0.01	0.40	0.59	0.00
L	F	N	0.01	0.40	0.59	0.00
L	N	G	0.60	0.25	0.12	0.03
L	N	P	0.40	0.40	0.17	0.03
L	N	F	0.10	0.55	0.32	0.03
L	N	N	0.05	0.45	0.47	0.03

Tables for MA indicator courses:

Prior Probability			Observed Probability (Current')			
Current	MA	Previous	G	P	F	N
G	G	G	1.00	0.00	0.00	0.00
G	G	P	1.00	0.00	0.00	0.00
G	G	F	1.00	0.00	0.00	0.00
G	G	N	1.00	0.00	0.00	0.00
G	P	G	1.00	0.00	0.00	0.00
G	P	P	1.00	0.00	0.00	0.00
G	P	F	1.00	0.00	0.00	0.00
G	P	N	1.00	0.00	0.00	0.00
G	F	G	1.00	0.00	0.00	0.00
G	F	P	1.00	0.00	0.00	0.00
G	F	F	1.00	0.00	0.00	0.00
G	F	N	1.00	0.00	0.00	0.00
G	N	G	1.00	0.00	0.00	0.00
G	N	P	1.00	0.00	0.00	0.00
G	N	F	1.00	0.00	0.00	0.00
G	N	N	1.00	0.00	0.00	0.00

Prior Probability			Observed Probability (Current')			
Current	MA	Previous	G	P	F	N
P	G	G	1.00	0.00	0.00	0.00
P	G	P	0.98	0.02	0.00	0.00
P	G	F	0.90	0.10	0.00	0.00
P	G	N	0.95	0.05	0.00	0.00
P	P	G	0.99	0.01	0.00	0.00
P	P	P	0.95	0.05	0.00	0.00
P	P	F	0.90	0.10	0.00	0.00
P	P	N	0.85	0.15	0.00	0.00
P	F	G	0.85	0.15	0.00	0.00
P	F	P	0.75	0.25	0.00	0.00
P	F	F	0.65	0.35	0.00	0.00
P	F	N	0.50	0.50	0.00	0.00
P	N	G	0.80	0.20	0.00	0.00
P	N	P	0.50	0.50	0.00	0.00
P	N	F	0.30	0.70	0.00	0.00
P	N	N	0.10	0.90	0.00	0.00

Prior Probability			Observed Probability (Current')			
Current	MA	Indicator	G	P	F	N
F	G	G	1.00	0.00	0.00	0.00
F	G	P	1.00	0.00	0.00	0.00
F	G	F	1.00	0.00	0.00	0.00
F	G	N	1.00	0.00	0.00	0.00
F	P	G	0.80	0.15	0.05	0.00
F	P	P	0.65	0.25	0.10	0.00
F	P	F	0.10	0.40	0.50	0.00
F	P	N	0.05	0.45	0.50	0.00
F	F	G	0.10	0.70	0.20	0.00
F	F	P	0.05	0.65	0.30	0.00
F	F	F	0.01	0.40	0.59	0.00
F	F	N	0.01	0.40	0.59	0.00
F	N	G	0.35	0.50	0.15	0.00
F	N	P	0.30	0.50	0.20	0.00
F	N	F	0.05	0.45	0.50	0.00
F	N	N	0.02	0.08	0.90	0.00

Prior Probability			Observed Probability (Current')			
Current	MA	Indicator	G	P	F	N
N	G	G	1.00	0.00	0.00	0.00
N	G	P	0.95	0.05	0.00	0.00
N	G	F	0.75	0.20	0.05	0.00
N	G	N	0.60	0.35	0.05	0.00
N	P	G	0.95	0.05	0.00	0.00
N	P	P	0.75	0.25	0.00	0.00
N	P	F	0.42	0.50	0.05	0.03
N	P	N	0.34	0.34	0.29	0.03
N	F	G	0.10	0.65	0.20	0.05
N	F	P	0.05	0.60	0.30	0.05
N	F	F	0.01	0.19	0.70	0.10
N	F	N	0.01	0.10	0.79	0.10
N	N	G	0.30	0.40	0.20	0.10
N	N	P	0.20	0.53	0.17	0.10
N	N	F	0.10	0.45	0.35	0.10
N	N	N	0.05	0.40	0.45	0.10

Tables for 1 indicator course:

Prior Probability		Observed Probability (MA114')			
GPA	Current	G	P	F	N
G	G	1.00	0.00	0.00	0.00
G	P	0.95	0.05	0.00	0.00
G	F	0.75	0.20	0.05	0.00
G	N	0.70	0.20	0.07	0.03
P	G	1.00	0.00	0.00	0.00
P	P	0.80	0.20	0.00	0.00
P	F	0.45	0.45	0.10	0.00
P	N	0.30	0.55	0.15	0.05
L	G	1.00	0.00	0.00	0.00
L	P	0.15	0.85	0.00	0.00
L	F	0.10	0.45	0.45	0.00
L	N	0.10	0.25	0.50	0.15