

MTA Course Planner - Constraints

Constraint₁

* if the course used for 1 rule \rightarrow need to be excluded from the 13th.

• Required: $X_{CSE6292} = 1$

$$X_{MGT6203} = 1$$

$$X_{CSE6748} + X_{ISYE6748} + X_{MGT6748} = 1$$

$$X_{CSE6740} + X_{CS7641} + X_{ISYE6740} = 1 \rightarrow \text{only required for C-track}$$

• Waivable course \rightarrow ① if $w_c = 0$, where $w_c = \{1, 0\}$

$$X_{CSE6040} = 1$$

else ($w_c = 1$)

$$X_{CSE6040} + \sum_{\bar{A}} X_{\bar{A}} = 1 \quad \forall \bar{A} \in \text{Course } A, B, C, D, S$$

② if $w_s = 0$, where $w_s = \{1, 0\}$

$$X_{ISYE6501} = 1$$

else ($w_s = 1$)

$$X_{ISYE6501} + \sum_{\bar{A}} X_{\bar{A}} = 1 \quad \forall \bar{A} \in \text{Course } A, B, C, D, S$$

③ if $w_B = 0$, where $w_B = \{1, 0\}$

can use MGT6753 \rightarrow $X_{MGT8803} + X_{MGT6753} = 1$
substitute

else ($w_B = 1$)

$$X_{MGT6753} + X_{MGT8803} + \sum_{\bar{A}} X_{\bar{A}} = 1 \quad \forall \bar{A} \in \text{Course } A, B, C, D, S$$

Electives \rightarrow set elective \geq ① might fit the 2 tracks at the same time (nice to have)

$$\sum_{\bar{\lambda}} x_{\bar{\lambda}} = 1 \quad \forall \bar{\lambda} \in \text{Course } 0.$$

C-track

$$\sum_{\bar{\lambda}} x_{\bar{\lambda}} \geq 1 \quad \forall \bar{\lambda} \in \text{Course } S$$

$$\sum_{\bar{\lambda}} x_{\bar{\lambda}} \geq 1 \quad \forall \bar{\lambda} \in \text{Course } C$$

$$\sum_{\bar{\lambda}}^{S+C} x_{\bar{\lambda}} \geq 1 \quad \forall \bar{\lambda} \in \text{Course } C, S.$$

B-track

$$\sum_{\bar{\lambda}} x_{\bar{\lambda}} \geq 2 \quad \forall \bar{\lambda} \in \text{Course } S.$$

$$\sum_{\bar{\lambda}} x_{\bar{\lambda}} \geq 2 \quad \forall \bar{\lambda} \in \text{Course } B.$$

A-track

$$\sum_{\bar{\lambda}} x_{\bar{\lambda}} \geq 2 \quad \forall \bar{\lambda} \in \text{Course } S$$

$$\sum_{\bar{\lambda}}^{S+O} x_{\bar{\lambda}} \geq 2 \quad \forall \bar{\lambda} \in \text{Course } S, O.$$