Tutorial #3: Decision Aid Methodology
1st May, 2012

THIS DATA IS CONFIDENTIAL!
PLEASE REMOVE IT AT THE END OF EACH LAB SESSION!

1. Hands on CrewLogic

Today's objective of this tutorial is to get familiar with CrewLogic, the different constraints for the Anonymous Crew Pairing and the Crew Rostering Problem and the way CrewLogic deals with them.

1. Start CrewLogic.

2. Under Crew Planning -> Planning Display, load the data of the first week of January, 2010 for both DH4 and EM9 aircraft types.

- How many flights are there? How many different flights are there (use the flight statistics of SchedulePlanner or TecPlanner)?
- How many different pairings are there (you have to count manually)?

3. Now, type Ctrl + L; a dialog box for selecting crew population opens. Load all CMD (flight commanders). How many of them are there?

4. Look a the individual schedules and comment what you see. If you compare to the first week of October 2009, what is the main difference between the crew schedules?

5. Load the data for the DH4 aircraft for February 1st, 2010 (this is the example of the course!). Also load the crew population of flight commanders (CMD) for DH4 aircraft.

6. First, create rotations manually. To do so, select the flights to be part of the rotation (hit Ctrl and click on all flights you want to be part of the rotation then drag-and-drop it into the Anonymous Crew Routes panel). A dialog box opens; click Check & Save - if no error message pops up, the rotation is created. Close the dialog box to see the result. Repeat the operation until all flights are part of a rotation.

7. What is the minimal number of rotations you require to cover the flights?

8. Now, try to assign the rotation containing flight 0121 (GVA-MXP starting at 06:00) to Crew member BKZ. What happens?

9. Try, again for BKZ, to create a ground activity of type “OFF” (right-click on the crew's schedule then New Ground Activity..., select the duty type, then hit Create and finally + Insert).

- What happens?
- Delete the ground activity and try again with the ground activity type “BUR” from 07:00.
- What happens? Why is it different from the previous step?

10. Try now to assign any of the created rotations to crew “EKU”. Explain what is different and why.

11. Try to assign any of the rotations to crew “OHE”. What happens?

- To see the crew's file, double-click on him (you can also load the file from Dictionary -> Crew Database).
- Browse through the different menus and identify where to find the medical check list.
- Until when is crew “OHE’ allowed to fly before performing a medical check?
- Add a medical check on January 30, 2010 (do not set it as “passed”). What changes?
- Try again to assign a rotation to crew “OHE” after the medical check appointment was created. What happens?

Note: This tutorial is a modified version of the one prepared by Dr. Niklaus Eggenberg for the “Decision Aid Methodology” course for Spring 2010 session.