Course Planning with OCAD

OCAD allows advanced mapping and course setting options. NOC has a number of OCAD Starter (Teams Licences) that we use of our events. The licences are managed by the Mapping Officer (Geoff Todkill) and requires internet installation and activation. OCAD Starter does the course planning and basic map drawing, so you can do some map corrections if required.
The Mapping Officer will send you the details to Install and Activate the software. It is possible to transfer the licence to another person, but **NOC is using the system where the software will be set to deactivate when you close OCAD***. Once installed, you can re-activate when required as long as no other person is using it at that time. You do not need to re-install.
You may need to share the licence with others at times, so **please close the program when you are not actually using it.**

(*This can be checked through ”Licence Manager”, accessed from the “Help” menu from the main screen in OCAD. The box at top left for “Deactivate this licence automatically when closing OCAD” should be ticked.)

For the event, you will be sent the background map file and course setting file with the same scale to eliminate the chance of a scaling error. Please save both files into the same folder, named appropriately. The files will be linked and ready for use with courses pre-set and positioning for control descriptions. For minor events, a smaller number of courses should be used.
The background map file that is as up to date as possible. It will be georeferenced and at the correct scale. The Foot maps are drawn at 1:15000 to match the ISOM mapping standard. NOC Foot events are printed at 1:10000 or 1:7500 scale. The printing process takes care of the required enlargement.
The course planner has no need to change any of the basic settings.
There may still be map corrections needed, that you notice when doing your field work for the courses. Map corrections can be made directly onto the event map file, but they need to be circled with the “Map Corrections” symbol (931), so that they can be identified and added to the master map for future use. The “Map Corrections” symbol will be hidden before event maps are printed.
For beginners to OCAD basic drawing techniques can be found on the OCAD help Wiki. Tools can be easily identified by hovering the mouse over them.
https://www.ocad.com/wiki/ocad/en/index.php?title=Main_Page

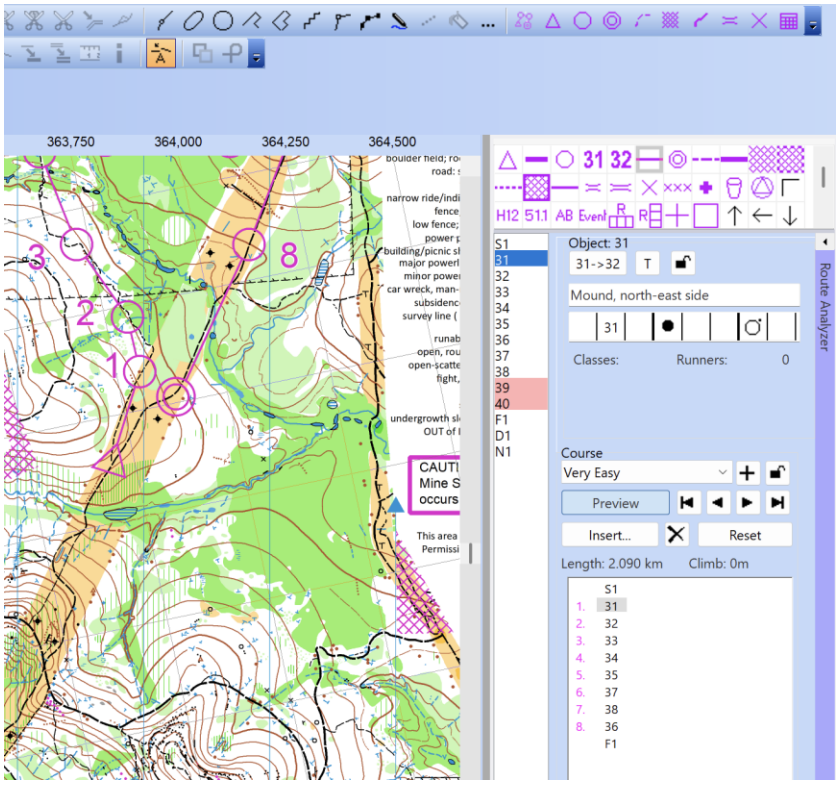
Map and Control site checking
OCAD also includes the option to use OCAD Sketch on a mobile device (phone or tablet). The OCAD Sketch App complements the desktop version of OCAD. It is designed for mapping in the field – both for new mapping as well as for recording revisions and corrections, feedback from course planners or vetters.
I recommend that you use OCAD sketch to help you and your vetter with any map corrections and to plan and verify the positioning of your control sites.
The OCAD Sketch Data Exchange is found in the File Menu of OCAD map and course setting files.
See OCAD_Sketch_App.pdf .

Printing
When you and your vetter have completed your computer work, the map files need to be sent to the Printing Officer (currently Geoff Todkill, gctodkill@bigpond.com) to allow time for printing. (If you need help or there is a problem or variation, please keep in contact to advise of progress)
If a problem is found you will be contacted so it can be sorted it out. The Printing Office may make some changes to the files to improve printing clarity.
For the bush events, it is best to send the map and course files approximately 10 days prior, so that it can be checked and printed, in the week preceding your event. You will be contacted to collect you printed maps and check them for correctness.

The Printing Officer will print the course maps, loose control descriptions; and send the SI file to the Computer Operator, and arrange files for Livelox.

Getting Started

1.Open the Course Setting File supplied.
2.Generally, the background map will open. If not, a dialog box will appear. Verify and open the background map.



OCAD has a very comprehensive OCAD Help Wiki to demonstrate how use the software. The full details can be seen at https://www.ocad.com/wiki/ocad/en/index.php?title=Course_Setting_for_Orienteering
The work flow of course planning is summarised below.

NB. The course setting file works by using a different layer for each course, sitting above the map.

Add course symbols

The start, all control sites, and the finish can first be positioned in the "All Controls" layer.
1.Select All controls in the Course drop-down menu.
2.Select the Start symbol and a drawing tool.
3.Click in the drawing area to place the object.
For the controls, the Course Object dialog box appears. It proposes the code S1 for the start. You can change this now if you know the code numbers allocated for your event.
5.In the Course Object Box, you can enter the control description in symbols, text or both. This could be left until later if you are still experimenting with your courses.

OR you could use compose a course! I find this better when you are still experimenting with courses.

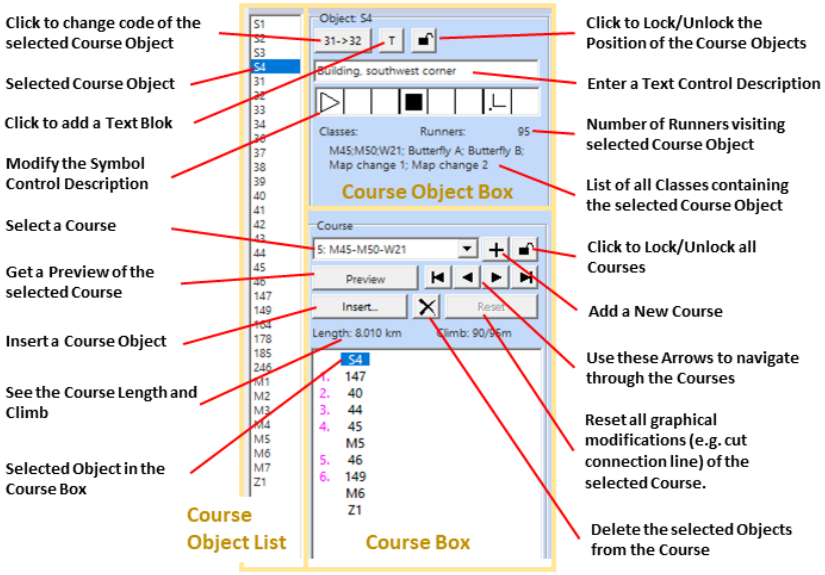
Compose a Course

1.Choose the Compose course tool from the toolbar.
2.Compose the course by clicking in the drawing area. First click adds a start object, each additional click adds a control point and double click adds a finish object to the map and the course.
NB. Select each course in turn. Previous controls can be used as part of a later course. Note that OCAD calculates the course length as you go.
See video at https://www.ocad.com/wiki/ocad/en/index.php?title=Compose_Course

Add Course Setting Objects

Extra features like marked routes, map issue points.
1.Marked route is first drawn into place and then added into the control sequence.
https://www.ocad.com/wiki/ocad/en/index.php?title=Add_Course_Setting_Objects#Add_a_Marked_Route
2.Map issue point: Draw a marked route to the start triangle and then add a Corner Vertex into the dashed line. The crossbar for the map issue point appears. See
https://www.ocad.com/wiki/ocad/en/index.php?title=Add_Course_Setting_Objects#Add_the_Map_Issue_Point

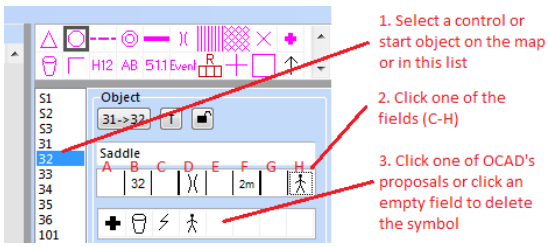
Edit Course Setting Objects



Common edits include changing the control code, adding and deleting controls, moving controls, defining control descriptions in symbols and words, inserting a mandatory crossing or map flip; or previewing each course.
NB. At any stage you can press the Preview button to see what the printed version will look like.

1. Change the control code by clicking the corresponding button 

, then enter the new code in the dialog box. NB. It is possible to renumber all control numbers for your event. Choose the Renumber all Controls command in the Controls submenu of the Course Setting.
2.Controls can be added by clicking in the desired position in the control sequence (a horizontal blue insertion line appears), then double click the control in the course object list.
3.Controls or objects to be deleted are selected in the control sequence and then click delete.
4.Controls can be moved at any time. Turn Preview off, select the control (click at centre) and drag to new position. (Remember it will change position in any course, and you may need to change the description)
5.Defining Control Descriptions: Select each control in the control list.
Symbol descriptions: Click in each column in turn and select the required symbol.
Text descriptions: Click in the text box (above symbol boxes) and type the description. NB. Use standard order.



6.Inserting is done by clicking in the control sequence, then clicking insert and selecting crossing or map flip. (When inserting a map flip you also need to add a continuation point (symbol 715) after the map flip). To check what will print on each side, I print to a pdf. You need to save each side as a separate file.
More information at
https://www.ocad.com/wiki/ocad/en/index.php?title=Course_Setting_for_Orienteering#Edit_Course_Setting_Objects

Make Graphic Modifications

Often it is necessary to make graphic modifications because a course object covers important map information.

Cutting circles and lines.

Cutting Circles. Turn Preview off, select the control circle, select the Cut tool (scissors) click and drag across the section to be deleted, release mouse. (If not correct, then replace section by selecting scissors again and left click on section removed. It will come back and then try again)
Cutting Lines. Turn Preview on, select the line, select scissors, click and drag across the section to be deleted, release mouse.
Move control numbers: Turn Preview On, select the number and drag to new position.
See video at https://www.ocad.com/wiki/ocad/en/index.php?title=Make_Graphic_Modifications

More Advanced features

You may want to experiment with some more advanced features. I find that they can be useful but also need to modified throughout the course planning process.

Auto Control Description

OCAD provides a tool that recognizes background map objects, where controls are placed, and sets the corresponding IOF symbol to the control description.
NB. This feature does not work with **Compose a Course**. Control circles need to be individually added to "All controls" More info at https://www.ocad.com/wiki/ocad/en/index.php?title=Auto_Control_Description

Edit Text Control Description

Choose the **Edit Text Control Description** command in the Course Setting menu. Click copy the automatic text to the user defined text column. The automatic text is generated according to the symbol names. It is then possible to edit the User-defined text to the Australian definitions.

Route Analyzer

This function is available in all types of course setting projects (forest, urban, Ski-O, MTBO).
It shows the fastest route between two controls.
More info at https://www.ocad.com/wiki/ocad/en/index.php?title=Route_Analyzer

Geoff Todkill- April 2025