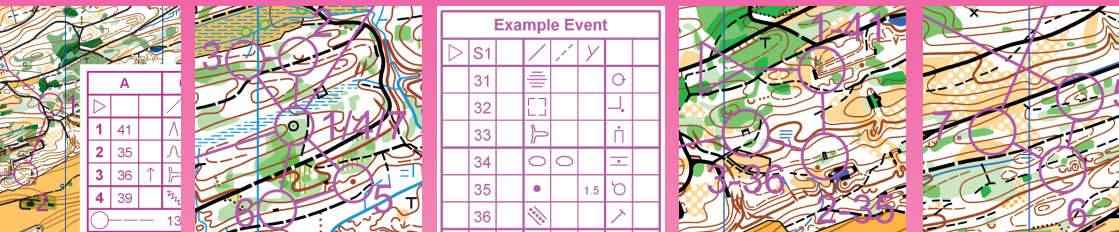


OCAD® 10 CS



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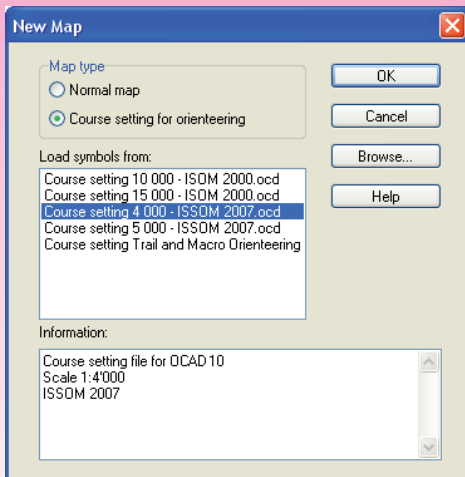
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OCAD CS – The Course Setting Program for Orienteering Sports

OCAD CS Course Setting is the OCAD edition for orienteering sports course setters and course controllers. The software supports the whole work flow starting from scratch of a course setting project to the very end, from placing the start symbol until printing or exporting the courses on the map or in one step together with the map. Templates for course setting in different scales and also for Ski-, MTB-, trail and macro orienteering are predefined. OCAD course setting allows you to make courses for individual races and relays in

the same course setting project. You can insert map changes or butterflies to all types of courses and additionally leg and team variations to relay courses.

Thanks to the parallel development with the OCAD mapping edition, OCAD CS Course Setting benefits from its progress and open new perspectives. OCAD course setting software stands to the specifications of the International Orienteering Federation IOF: ISOM2000, ISSOM 2007 and IOF Control Descriptions 2004.



Example Event

All controls

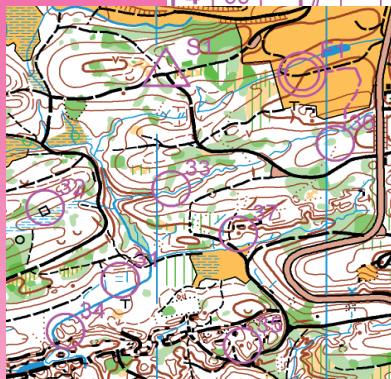
Example Event				
▶ S1	/	/	Y	
31	≡		○	
32	☐		↓	
33	☐		↑	
34	○		≡	
35	•	1.5	○	
36	≡		↗	
37	•		○	

Smart Tools by OCAD CS

Place the Course Setting Objects, Define the Courses and Assign the Classes!

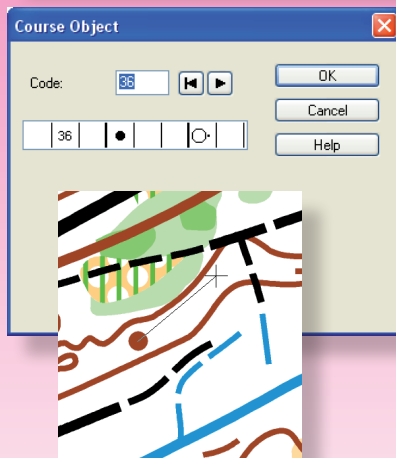
Place the OCAD course setting objects on the map. Course setting objects are: start, control, finish, marked route, course title, event title, course name, control description place holder etc. Create courses and define them by assigning course setting objects to them. Duplicate a course, if you plan to create a course very similar to the already defined one. With the preview function you can see how the printed course would look like: move the control numbers, cut the control circles or the connecting lines to optimize the graphic appearance of the course. Create classes and assign a course to every class. A course can be assigned to several classes.

Example Event					
	A	1.9 km			
▶		/	/	Y	
1	37	•			♂
2	34	○	○		≡
3	32	□			└
4	33	▷			↑
					○
					○
					↗
					↘



Use Automatical Control Description by Placing Controls!

OCAD CS recognizes the map symbol when placing a control and adds the right symbol into the control description. Dragging the cursor in a specified direction determines the exact location of the control in relation to the object. This works also for control features like hill, depression, re-entrant or spur where no map object is located in the center of the control circle, when pressing the the Shift key! Automatical Control Description is supported for OCD and EOCD background maps.



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OCAD CS Functionality Chart

	OCAD CS	OCAD Stand/Prof
General		
Normal Course, Relay or One-Man-Relay	•	•
Predefined Set of Control Description Symbols, according IOF International Specification for Control Description 2004	•	•
Templates for Course Setting in Scale 1:15'000, 1:10'000, 1:5'000 and 1:4'000 new	•	•
Support Trail and Macro Orienteering	•	•
Support Map Exchange and Butterfly new	•	•
Work with Courses Only or with Courses and Classes	•	•
Add New Course Setting Symbol		•
Enlarge/Reduce Course Setting Symbol	•	•
Add New Color	•	•
Add New Control Description Symbol	•	•
Automatic Measure of Course Length	•	•
Option to Dim the Course and/or the Background Map	•	•
Option for Different Control Sizes		•
Course Setting		
Course Setting Project		
Open New Course Setting Project	•	•
Load OCD/EOCD Map as Background Map new	•	•
Load Raster File as Background Map new	•	•
Define Scale	•	•
Courses	•	•
Add, Duplicate, Delete Course	•	•
Change Order (Move Up and Move Down)	•	•
Enter Extra Length	•	•
Enter Climb or Modify Climb Calculated from DEM (Digital Elevation Model) new	•	•
Save Report of Courses in Word, Excel, Html or Text Format new	•	•
Class		
Create Classes Automatically or Assign it Manually to a Course	•	•
Add, Delete Classes	•	•
Change Order (Move Up and Move Down)	•	•
Course Setting Objects		
Add Start, Controls, Finish	•	•
Add Marked Route	•	•
Add Control Description Object	•	•
Add Course Title	•	•
Lock Position of Course Setting Objects new	•	•
Course Definiton		
Add and Delete Course Object to the Course	•	•
Display Course in Preview Mode	•	•
Butterfly (Course Can Use a Control Several Times)	•	•
Option Map Exchange	•	•
Show Climbing in Course Setting Box (Digital Elevation Model is requested) new	•	•
Lock Course Definition new	•	•
Climbing from DEM		
Calculate Climbing from DEM new	•	•
Modify Elevation for Each Control new	•	•
Export to Word, Excel, Html or Text Format new	•	•
Modification		
Cut out Control Circles	•	•
Modify Connection Lines (Cut, Bend) for Each Course	•	•
Move Control Numbers for Each Course	•	•
Change Code	•	•
Reset Course to Unmodified Condition	•	•
Course Preview	•	•
Redo Gap of Control Circle	•	•
Options		
Enter Event Title	•	•
Choose Course Title (Classes, Course Name and Classes, Course Name Only)	•	•
Chose Control Numbering Style (Number, Number and Code, Code Only)	•	•
Enter Distance from Circle to Number	•	•
At the Numbering of the Controls, a Period (Full Stop) Is Shown Optionally Behind the Number new	•	•
Enter Distance from Circle to Connecting line	•	•

OCAD Functionality Chart

Print Courses		
Print Partial Map (Selection by Coordinates, Entire Map, Current View, One Page)	•	•
Print Only Course	•	•
Select Courses, Classes or All Controls	•	•
Define Print Scale	•	•
Print Grid, Define Print Color of the Grid	•	•
Reduce Print Intensity, Reduce/Enlarge Line Widths	•	•
Save Print Settings new	•	•
Statistics		
Statistic for Each Control new	•	•
Display Number of Controls, Courses and Classes new	•	•
Display Distances of Less Than 60m Between 2 Controls new	•	•
Display Legs Between 2 Controls Which Have the Opposite Direction new	•	•
Export in Text File	•	•
Display Statistic (Runners) for Each Control on the Map	•	•
Display Statistic (Runners and Classes) for Each Control in Course Setting Box	•	•
Control Description		
Create Control Description		
Thicker Horizontal Line (Every Third, Every Fourth, None)	•	•
Multi Row Control Description	•	•
Display Number of Start in Control Description	•	•
Define Box Size	•	•
Create White Background Automatically	•	•
Add Control Descriptions for All Controls	•	•
Create Control Description	•	•
Create Automatically the IOF Symbol Control Description while Placing the Controls new	•	•
Create Text Control Description	•	•
Add Text Block to Control Description	•	•
Insert Mandatory Crossing Point, Passage through out of Bounds Area	•	•

Print Control Description		
Print Symbol Control Description	•	•
Print Text Control Description	•	•
Choose Box Size	•	•
Select Courses, Classes or All Controls	•	•
Choose Number of Copies	•	•
One Page per Course Filled with as Many Control Descriptions as Possible of that Course	•	•
Export		
Export Courses in IOF XML File for Result Software, (With Control Position in Real World Coordinates)	•	•
Export Courses in Formatted Text File	•	•
Export Courses in Text File Version 8 for Result Software	•	•
Export Courses as GPX File new	•	•
Export Course and Event Statistics in Text File	•	•
Export Course Maps in Ocd Files	•	•
Export Courses in EPS File (Spot Color separations or CMYK)	•	•
Export Courses in PDF File	•	•
Export Courses in Raster File (BMP, GIF, JPEG, TIFF)	•	•
Export Control Description as Text File new	•	•
Relay		
Insert Team Variation	•	•
Insert Leg Variation	•	•
Print and Export Course for Chosen Variants	•	•
Print and Export Course for Selected Start Numbers and Legs	•	•
Enter the Number of Legs	•	•
Add the Variant on the Map	•	•
Add the Start Number on the Map	•	•
Export Course Relay Combinations in IOF XML File	•	•
Enter Start Numbers Range for Relay and One-Man-Relay	•	•

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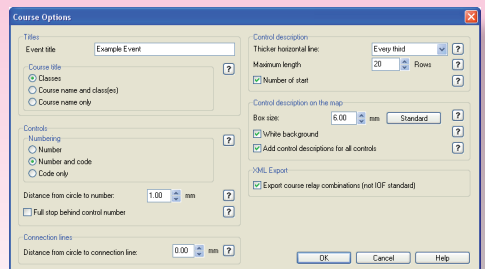
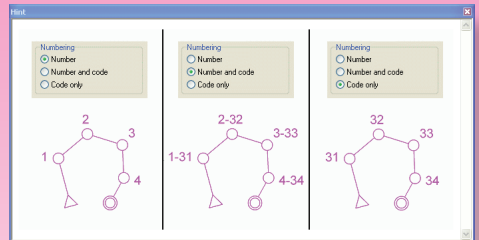
Calculate Climbing from Digital Elevation Model

Due to the DEM (Digital Elevation Model) implementation in OCAD mapping software there are also useful functions for course setters available. You can load a DEM in a course setting project, OCAD calculates the climbing for the courses automatically. If a DEM is missing, it is possible to edit the elevation for every control manually.

Name	Elevation	Elevation	Difference	Course	Extra length	Height climb calculated	Height climb used
	DEM	Used					
51	774.73	774.73	0.00				
31	800.31	800.31	0.00				
32	788.12	788.12	0.00				
33	808.34	808.34	0.00				
34	820.69	820.69	0.00				
35	810.26	814.00	3.74				
36	790.16	796.00	5.84				
37	840.31	840.31	0.00				
38	832.6			Course:	Extra length:	Height climb calculated:	Height climb used:
39	838.9			HE	0.00	463	560
40	791.7			DAL	0.00	183	205
41	815.8			HAL	0.00	364	400
42	767.8			HAM	0.00	223	250
43	811.1			DAK	0.00	107	130
44	832.7			HAK	0.00	126	160
45	777.3			DB	0.00	105	130
46	835.3			HB	0.00	158	200
47	814.1			D3S	0.00	141	180
48	813.3			H3S	0.00	251	330
49	819.1			D4D	0.00	152	190
50	814.17	814.17	0.00	H4D	0.00	277	310
				D4S	0.00	143	175

Define your Course Setting Properties

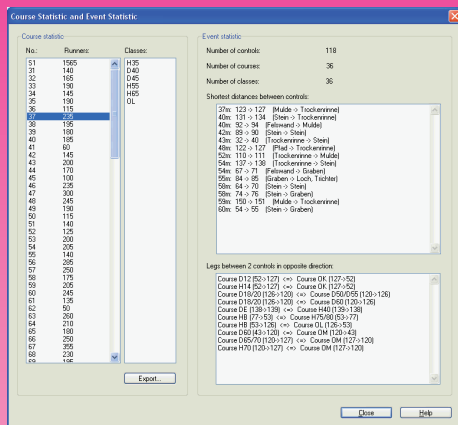
Define your course setting properties in the OCAD course setting options, beginning with the event title and ending with the settings for the XML export. Further make your settings for the course title, control numbering or define the maximum number of rows per column of the control description box. A visual aid is shown by clicking on the ? buttons. This will help you to understand the different options that you can choose the right one for your purpose.



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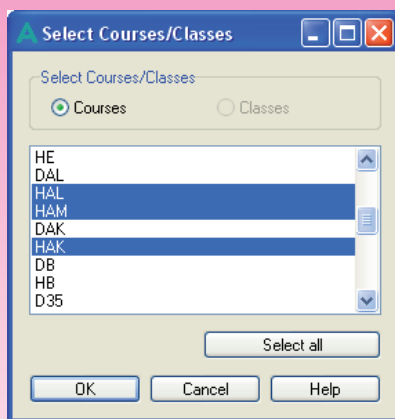
Quality Control with Course and Event Statistics

Course and Event statistics show you the number of used controls, the number of courses and classes. Additionally you can see how many runners will pass at every control. This helps you to optimize the distribution of runners to the different controls. According to the IOF Foot-O Competition Rules 2007 controls places within a distance of less than 60 m will be listed. OCAD course setting also recognizes, if a leg between two controls is used in different courses but in the opposite direction.



Print and Export Courses

Finally ready, print courses or classes directly from OCAD or export them as PDF to print them in a print shop. For printing you can choose if you want to print the courses with the map or only the courses on a already printed map. Print also the control descriptions. Export the course definitions to xml or text file to use it in a result software. Raster export of courses to BMP, GIF, JPEG or TIFF is possible too. Assumed that you work with a geo-referenced map, export the controls and courses as GPX file to check the controls in the field with a GPS device.



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