Week 4 Topic	Karamba Workshop (Wednesday 23. March / CivEng 701) Special tutorial Karamba Workshop with Dr Sascha Bohnenberger / Bollinger Grohmann. The workshop starts at 9 am with a first set up and test if all Karamba licences are running.
Assignment	Opera Australia VIP Centre Piece Opera Australia has asked UNSW Computational Design to design their centrepiece for their VIP area for the upcoming opera 'Sydney Opera House - the opera'. The centrepiece will be a bar table where guests can stand or lean against and place their drinks while having a conversation before taking their seats or in the intermission. The centrepiece has following external dimensions, your design should be within these dimensions but it is not necessary that they follow that boxy form (Height 1150 * Width 1000 * Length 3000). The design process must include a structural testing of the centre piece using parametric software (Grasshopper and plugin Karamba) and should push what is structural possible in a similar way Utzon pushed together with Arup what was structural possible at the time the opera house was built. The fabrication of the centrepiece will use 3D printing for the structural nodes using robot fabrication techniques developed by MX3D and supported by Heijmans. Each 3d printed node is connected to another by a 42 * 42 mm wooden beam. One of the design challenges and assessment criteria is to come up with a structure that would use the minimum of 3d printed nodes, as these are the dearest component of the design. Consequently the structural design will reflect a space frame structure; arguably a structural system one would use at present for designing large complex roofs, as it was the case in the 2012 completed Heydar Aliyev Centre in Baku, Azerbaijan by Zaha Hadid. The centrepiece will have a bench top that can be executed in a material selected by the designing student and cut via a CNC milling process.
Readings:	Please visit: http://www.karamba3d.com/ to familiarise your self with the program and look as project examples on their site.
Tutorial activities:	Special All day tutorial Karamba Workshop with Dr. Sascha Bohnenberger / Bollinger Grohmann on Wednesday 23rd March 2015. Upload designs and images of the proposal for the opera house bar to Moodle by Monday 9am 28th March 2016.
Hand-in	The Karamba exercise has a presentation on Friday 1. April 2016 from 3pm – 6pm. The presentation location is BVN Architects office in Pitt Street in the city (Hilton Hotel). Please be there at least 15 min earlier to set up your files on the computer. Each student will show 5 slides using the CoDe horizontal template and has 5 minutes to present to the panel. Slide (1) shows concept and ideas; Slide (2) explain the Grasshopper / Karamba optimisation process; Slide (3) Plans, sections, elevations, perspectives; Slide (4) Renderings and moneyshot; Slide (5) outlines ideas towards manufacturing and assemble. There is no feedback. Winner will be announced 8. April.
Panel	Fabian Scheuerer (Design to Production, Zurich); Nando Nicotra (Jacobs Engineering); Louisa Robertson, Cliff Bothwells (Opera Australia); Lisa Dew, Andrew Butler, M. Hank Haeusler (UNSW CoDe); potential BVN staff