

Customer Needs

CN #	Customer Need
1.1	The driving factor of cost is the trade off between a few expensive robots, or many less expensive robots.
1.2	The economic value would allow the LVE to be successful in marketplace.
1.3	Costs related to manufacturing processes must be minimized.
1.4	Costs related to maintenance must be minimized.
2.1	The class would ideally include team projects, made up of groups of 3-6 members.
2.2	Competitions will be conducted in class, under proper restrictions.
2.3	The course content must keep students' attention.
2.4	Course content must stimulate interest in mechanical engineering.
2.5	Students will be expected to build off high school education.
2.6	The course must be challenging to students.
2.7	The course must include hands on activities.
2.8	Course projects must be related to students' interest.
2.9	The course must educate the students about mechanical engineering topics.
3.1	The LVE project must make up a major part of the class.
3.2	The LVE should be able to accommodate multiple competitions.
3.3	The LVE provides tangible example of engineering design processes.
3.4	The LVE projects must perform a quantifiable objective.
3.5	The LVE provides an introduction to future engineering topics.

3.6	The LVE represents college level engineering.
3.7	The LVE must be ready to support a class beginning fall semester 2013.
4.1	The LVE is safe for use by students and faculty.
4.2	The LVE design process must consider aspects of sustainability.
4.3	The LVE must be impressive so that other will want to emulate it.
4.4	The LVE must be easy to manufacture, maintain, and store.
4.5	The LVE must be made up of modular components.
4.6	The LVE must contain a platform for customizable attachments.
4.7	The LVE must utilize previous work from the Land Vehicle and Robotic Platform project families.
4.8	The LVE must be design to require the use of only a small selection of tools.
4.9	The LVE must look professional.
4.1	The LVE must be able to withstand multiple years of use and abuse.
4.11	The LVE must be designed for easy assembly and troubleshooting.
4.12	The LVE must be designed with reasonable and standard geometric dimensioning and tolerances.
5.1	The LVE is a reasonable size, so that several can be stored in a confined area.
5.2	LVE senior design teams must provide complete and up-to-date design and manufacturing documentation to maintenance staff.
6.1	The LVE must use off the shelf parts as often as possible.
6.2	Manufacturing of LVE components should utilize in house facilities as often as possible.
6.3	LVE design teams must provide clear manufacturing instructions.