## 16-450

## **Robotics Systems Engineering**

	Missing	Poor	Fair	Good	Excellent
Motivation	Motivation undescribed.	Motivation is inconsistent or unclear.	Motivation is stated but has significant holes.	Motivation covers all aspects of the project and is specified clearly and concisely.	Motivation is especially compelling and well communicated.
Model	No model present to describe the function (e.g. use cases, context diagram).	A model is included, but it is minimal or not graphical.	A basic model is included.	A thorough model is included but from only a single perspective.	Multiple models are included with significantly different perspectives.
Non-Functional Requirements	No non-functional requirements specified.	Functional confused with non-function requirements or the non-functional requirements do not help to specify the system.	Some significant non- functional requirements are missing.	Non-functional requirements specify quality goals, but some are inconsistent or unpractical	Non-functional requirements do an excellent job of specifying the performance required in a measurable way. All requirements are practical.
Functional Requirements	No functional requirements specified	Functional confused with non-function requirements or the non-functional requirements do not help to specify the	Functional requirements specify the system but many areas are missing.	Functional requirements specify the basic operation of the exhibit, but some areas are ill defined.	Functional requirements do an excellent job of specifying the operation of the exhibit and tie in to the model(s).
Assumptions	No assumptions listed.	Assumptions listed are either not reasonable or irrelevant.	Some reasonable assumptions are listed but some may not be reasonable or missing.	Most assumptions are reasonable and guide the requirements definition.	Assumptions are reasonable and clearly stated.
Requirements Prioritization	No priorities are specified for the requirements.	Many priorities missing or inconsistent.	Some priorities missing.	Most requirements have appropriate priorities.	Clear priorities are specified for all requirements.
Requirement Completness	The document is blank.	Requirements do very little to limit the design space.	Requirements shape the design space but many areas are underspecified.	Requirements do a reasonable job of defining the design space, but a few areas still exist that are underspecified.	Requirements completely cover the problem and effectively constrain the design space to a level appropriate for the project.
Level of Detail	No requirements included.	Requirements are either too vague or so detailed that only one obvious design will be possible.	Many requirements are either too specific or too vague, but they still specify the design space well enough to have some wiggle room.	Requirements generally have an appropriate level of detail but a few are too specific and lead to a particular design.	Requirements are specified with enough detail to guide the design, but not imply a specific solution.
Traceability	Requirements are not labeled.	Requirements are labeled but the labeling scheme is confusing and arbitrary.	Requirements are labeled with a logical scheme but there is no traceability from requirements to their justification.	Some requirements include justification, but some are missing.	All requirements include a motivation/justification unless it is obvious.
Engineering Practices	Document does not contain a revision history or any referencing.	Document is either missing a revision history or nothing is referenced.	Document contains a revision history and some references exists, but they are minimal.	Document contains a revision history but references are a little light.	Document contains a revision history, and proper references to both external documents and internal sections.
Readability/ Organization	Document is a jumble and impossible to follow.	Document is legible, but there are many spelling, grammatical or logical errors making it very difficult to follow.	Organization of document is confusing or prose is too convoluted, making the document more difficult to read and understand.	Document is well organized, but there are some areas that are confusing. Also, document could be too long and repetitive.	There is a logical flow to the document and prose is clear and concise.