You have just taken a position as the head of research and development for a cardiovascular device company. They have been given a grant to develop an implantable system to treat patent foramen ovale, a birth defect that can have devastating effects if not corrected. It is your job to oversee the development of this system, from conception through clinical implementation. You have been given the clearance to consider an implant composed of artificial materials, tissue engineered systems, or a combination of the two. The president of the company has requested an interim report that provides the following:

1. Background and significance of patent foramen ovale
2. Discussion of current treatment techniques
3. Discussion of why you have selected to pursue the category of system that you have chosen (artificial, tissue engineered, or combination)
4. The goals and constraints for the system design, including a discussion of how these were developed
5. A detailed discussion of your design, citing past research into the materials or systems you will use and including how it meets or fails to meet the developed goals and constraints
6. A detailed description of the testing regimen that you will implement in order to bring your design from the bench top to the market