I'm going to suggest the following topic (question) for a short essay:  
  
**Describe how rapid prototyping (or virtual prototyping) could affect the risk profile of a development project.**  
  
I would expect students to address a subset of any or all of the following themes (or additional):  
  
   The transparent, short-cycle and iterated nature of RP / VP that makes it different from the linearity of traditional design and development processes  
  
   Risk of complete project / product / service / system / campaign failure  
  
   Risk of exceeding development and operational budgets  
  
   Risk of project time overruns  
  
   Competitive risks (i.e. being late to market, launching obsolete  
   products, etc)  
  
   Technical and operational risks (such as deploying systems that do not technically integrate properly with partners' systems)  
  
   The value of early information to project management  
  
   The value of accelerated feasibility assessment  
  
   The value of accelerated consensus through a socialised prototype (and "distributed design", a related concept)  
  
   The increased probability of finding optimal designs -- at speed - -and avoiding disastrous design errors  
  
   The use of non-technical methods (such as rehearsal and role play)  
  
   Synergies (increasing returns) across these themes  
  
  
The following kinds of source materials would be relevant:  
  
   Anything related to the Agile Programming movement  
  
   Anti-patterns such as the traditional approach to software development  
   (such as the waterfall method)  
  
   Cost reduction in industrial design -- especially for time-bound  
   projects (such as Formula 1, or yacht racing)  
  
   CAD/CAE/CAM, i.e. computer aided design, engineering, manufacture  
  
   New trends within the more conventional rapid prototyping sphere (such  
   as 3D printing)  
  
   Tools and immersive environments for data visualisation and virtual collaboration  
  
   Large (famous) initial use of virtual prototyping, such as the Boeing 777 design