Systems Engineering and Project Management
VO 716.111

Exam, Thursday 08.10.2020

Group A

Name	MatrikelNr.

Before starting the exam please fill in your name and your Matrikelnummer (your student identification number). Do not use your own sheets of paper. Write the solution directly at the given free space of this test. You can answer the questions either in German or English.

Grades:

0. . . 25	Nicht genügend (5)
26. . . 32	Genügend (4)
33. . . 38	Befriedigend (3)
39 . . . 44	Gut (2)
45. . . 50	Sehr gut (1)

1. *Introduction:* (Max. 10 points)
   Answer the following questions (where each question counts 2 points):

   (a) What is a *system*?
   Solution:

   (b) What do *systems* have?
   Solution:

   (c) Which areas / disciplines are related to *systems engineering*?
   Solution:

   ✓

   (d) How is *risk* defined?
   Solution:

   (e) What are the two techniques introduced in the lecture for risk assessment?
   Solution:

2. *Modeling process:* (Max. 10 points)
   Answer the following questions (where each question counts 2 points):

   (a) What are the foundational ideas behind SYSMOD?
   Solution:

   (b) What are the 6 tasks of SYSMOD?
   Solution:

   (c) What is a project notebook / Projekttagebuch ?
   Solution:

   (d) Name some questions to be answered when outlining the system's ideas and objectives?
   Solution:

   (e) What is a use case?
   Solution:

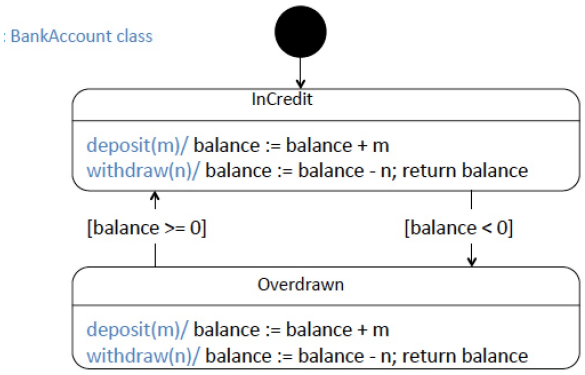
3. *UML:* (Max. 10 points)
   Answer the following questions (where each question counts 2 points):

   (a) What information do associations have?
   Solution:

   (b) What is polymorphism?
   Solution:

   (c) What is the purpose of a UML deployment diagram?
   Solution:

   (d) What is described in the following diagram? What type of UML diagram is used?



   Solution:

(e) Name at least 4 behavior diagrams in UML?
Solution:

4. *SYSML:* (Max. 10 points)
   Answer the following questions (where each question counts 2 points):

   (a) What is SYSML?
   Solution:

   (b) What are the differences between UML and SYSML?
   Solution:

   (c) What is the difference between a block definition diagram and an internal block diagram in SYSML?
   Solution:

   (d) What are parametric diagrams in SYSML?
   Solution:

   (e) Are requirement diagrams also part of UML?
   Solution:

5. *Project management:* (Max. 10 points)
   Answer the following questions (where each question counts 2 points):

   (a) What characterizes a project?
   Solution:

   (b) What is a project specific organization?
   Solution:

   (c) What is the purpose of a project plan? What has to be included?
   Solution:

   (d) What are the different methods for cost and effort estimation?
   Solution:

(e) What are critical paths?
Solution: