

**IAA Study, Commission VI**  
**Competency-based System Engineer Education**  
**Organizational Needs vs University Provided Education**

Space System Engineering Capabilities Organization Needs, University Providers--	Results for Assessments at Level 2--Application							
	GOrg a	GOrg b	COrg c			EUniv a	UUniv b	UUniv c
<b>1.0 Concepts and Architecture</b>								
1.1 Mission Needs Statement		C	C			2	1	2
1.2 System Environments	C	C	C			1	2	1
1.3 Trade Studies			C			2	2	1
1.4 System Architecture	C	C	C			2	2	1
<b>2.0 System Design</b>								
2.1 Stakeholder Expectation Definition & Management <sup>p</sup>			C			2	2	
2.2 Technical Requirements Definition <sup>p</sup>	C	C	C			2	2	2
2.3 Logical Decomposition <sup>p</sup>			C			2	2	2
2.4 Design Solution Definition <sup>p</sup>			C			2	2	2
<b>3.0 Production, Product Transition and Operations</b>								
3.1 Product Implementation <sup>p</sup>	C					2	1	1
3.2 Product Integration <sup>p</sup>	C		C			1	2	1
3.3 Product Verification <sup>p</sup>	C	C	C			1	2	1
3.4 Product Validation <sup>p</sup>	C	C					2	1
3.5 Product Transition <sup>p</sup>							1	1
3.6 Operations	C					2	2	1
<b>4.0 Technical Management</b>								
4.1 Technical Planning <sup>p</sup>	C	C	C			3	2	1
4.2 Requirements Management <sup>p</sup>	C		C			2	1	1
4.3 Interface Management <sup>p</sup>		C	C			1	2	1
4.4 Technical Risk Management <sup>p</sup>		C	C			2	1	1
4.5 Configuration Management <sup>p</sup>	C						1	
4.6 Technical Data Management <sup>p</sup>	C						1	
4.7 Technical Assessment <sup>p</sup>	C		C			1	2	
4.8 Technical Decision Analysis <sup>p</sup>		C	C			2	2	2
<b>5.0 Project Management and Control</b>								
5.1 Acquisition Strategies and Procurement						2	2	
5.2 Resource Management <sup>p</sup>	C					2	2	1
5.3 Contract Management							2	
5.4 Systems Engineering Management <sup>p</sup>	C					3	2	2

As of 10 Aug 07, 3 Organizations, 3 University Programs

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Organization Needs, University Providers--	GOrg 1	GOrg 2	COrg 3			Univ 1	Univ 2	Univ 3
<b>6.0 Internal and External Environments</b>								
6.1 Organization Structure, Mission, and Internal Goals								
6.2 PM/SE Procedures and Guidelines							2	
6.3 External Relationships								
<b>7.0 Human Capital Management</b>								
7.1 Technical Staffing and Performance								1
7.2 Team Dynamics and Management		C	C			3	1	1
<b>8.0 Security, Safety and Mission Assurance</b>								
8.1 Security								
8.2 Safety and Mission Assurance	C							
<b>9.0 Professional and Leadership Development</b>								
9.1 Mentoring and Coaching								
9.2 Communication	C					3	2	1
9.3 Leadership	C					3	2	
<b>10.0 Knowledge Management</b>								
10.1 Knowledge Capture and Management								

Note: Performance Level 2 is focused on the application of space system engineering capabilities for a small space project. Level 1 is focused on knowledge of system engineering processes and space systems hardware and software. Level 3 is focused on managing other's efforts and involves large, multi-billion dollar missions and systems. Organizations identified Level 2, application, as Critical (C), Necessary (N) or Optional (O) for system engineer development. **ONLY THE CRITICAL ITEMS ARE SHOWN.** GOrg = Government organization and COrg = space company.

EUniv = European University, UUniv = US University