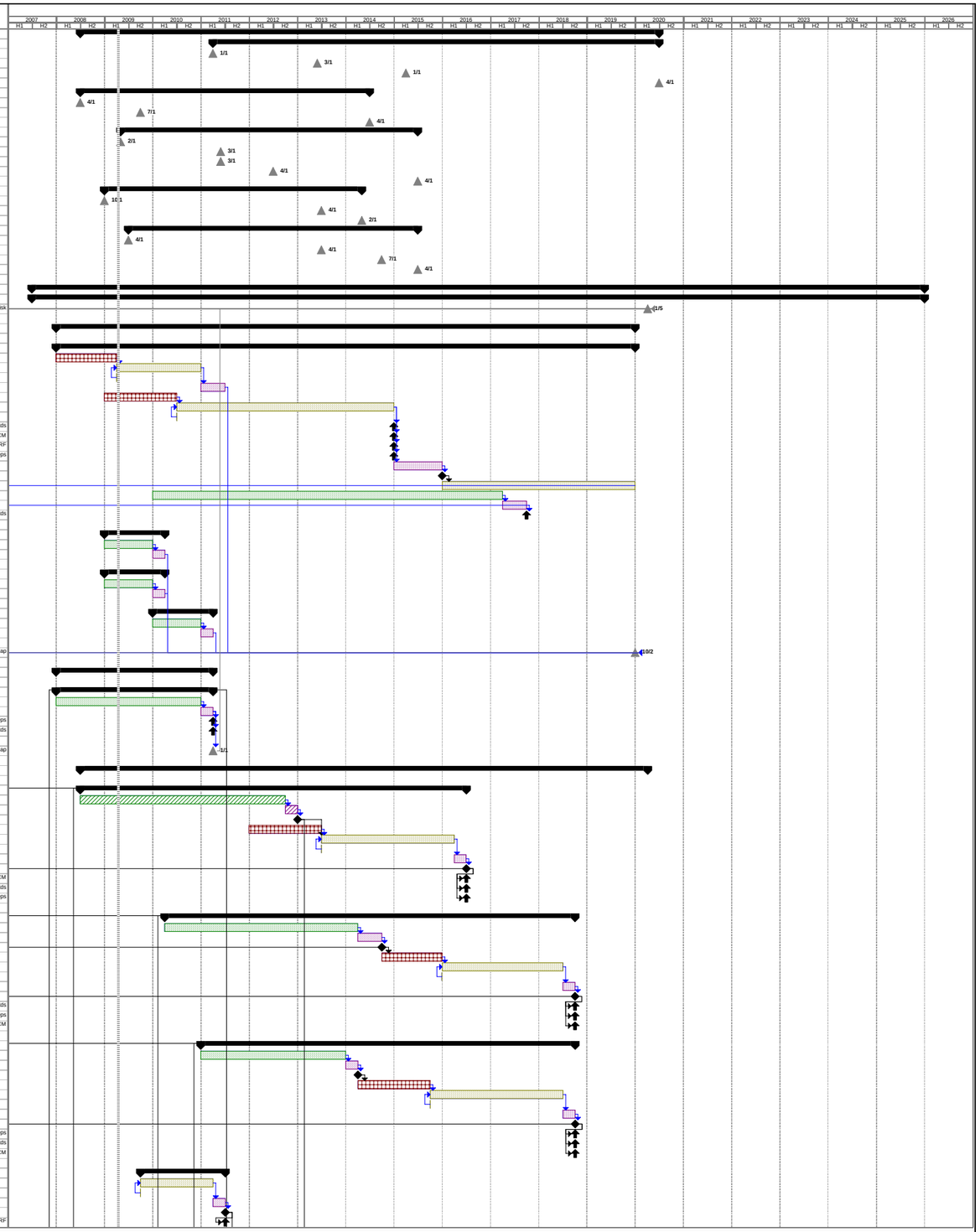
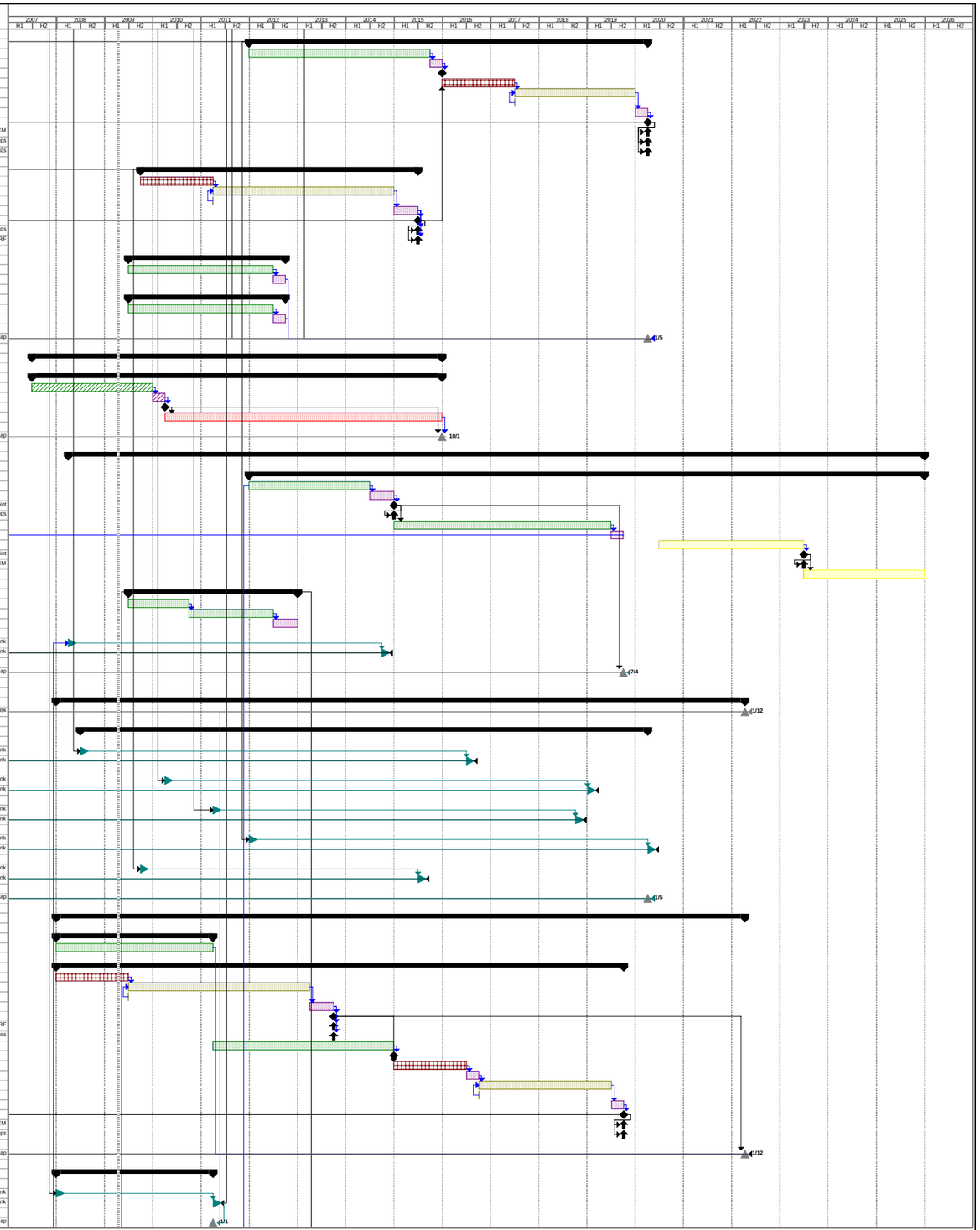
ID	Total Subjects Required	Propensity to Vounteer (1-5)	Volunteers/ Increment	Total Increments Required	Upmass/ Increment Subject	Downmass/ Increment Subject	Crew Time/ Increment Subject	BDC Time/ Increment	Jpmass Icrement	Downmass Increment (calc)	Crew Time/ Increment (calc)	Resources Exist?	IRP Duration	Duration ISS-Subjects Required	Resource Names	Task Name	Duration	Start	Finish	Predecessors	Milestone	Milestone Type
1	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Customer Schedules**	**4383 days**	**4/1/08**	**4/1/20**		**No**	
2	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3378 days**	**0 days**		**Program Level**	**3378 days**	**1/1/11**	**4/1/20**		**No**	
3	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		SRR	0 days	1/1/11	1/1/11		Yes	
4	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		PDR	0 days	3/1/13	3/1/13		Yes	
5	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		CDR	0 days	1/1/15	1/1/15		Yes	
6	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		First Human Lunar Return	0 days	4/1/20	4/1/20		Yes	
7	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2191 days**	**0 days**		**Orion**	**2191 days**	**4/1/08**	**4/1/14**		**No**	
8	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		PDR	0 days	4/1/08	4/1/08		Yes	
9	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		CDR	0 days	7/1/09	7/1/09		Yes	
10	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Initial Ops	0 days	4/1/14	4/1/14		Yes	
11	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2250 days**	**0 days**		**EVA Suit**	**2250 days**	**2/1/09**	**4/1/15**		**No**	
12	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		PDR Suit1	0 days	2/1/09	2/1/09		Yes	
13	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		SRR Suit2	0 days	3/1/11	3/1/11		Yes	
14	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		CDR Suit1	0 days	3/1/11	3/1/11		Yes	
15	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		PDRSuit2	0 days	4/1/12	4/1/12		Yes	
16	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		CDR Suit2	0 days	4/1/15	4/1/15		Yes	
17	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1949 days**	**0 days**		**Lander**	**1949 days**	**10/1/08**	**2/1/14**		**No**	
18	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		PDR-Init Capability	0 days	10/1/08	10/1/08		Yes	
19	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		PDR	0 days	4/1/13	4/1/13		Yes	
20	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		CDR	0 days	2/1/14	2/1/14		Yes	
21	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2191 days**	**0 days**		**Mission Operations**	**2191 days**	**4/1/09**	**4/1/15**		**No**	
22	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		CDR - Init Capability	0 days	4/1/09	4/1/09		Yes	
23	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		SRR	0 days	4/1/13	4/1/13		Yes	
24	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		PDR	0 days	7/1/14	7/1/14		Yes	
25	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		CDR	0 days	4/1/15	4/1/15		Yes	
26																						
27	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**ENSURE THAT THE CREW CAN COMPLETE THE PHYSICAL TASKS OF THE MISSION**	**6759 days?**	**4/1/07**	**10/1/25**		**No**	
28	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Risk of Impaired Performance Due to Reduced Muscle Mass, Strength and Endurance**	**6759 days?**	**4/1/07**	**10/1/25**		**No**	
29	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Pre-Lunar Muscle	0 days	1/5/20	1/5/20	64FF,74FF,154	Yes	Done with Risk
30																						
31	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 1: (SM?) Integrated post-flight functional task performance test**	**4385 days?**	**10/1/07**	**10/2/19**		**No**	
32																						
33	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Bloomberg Functional Task Test: Shuttle, ISS, Bed Rest Task**	**4385 days?**	**10/1/07**	**10/2/19**		**No**	
34	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Bloomberg Functional Task Test: Flight Prep 1	459 days?	10/1/07	1/1/09		No	
35	13	5	3	4.33	0	0	0	6.3	0	0	0	1	0 days	780 days		Bloomberg Functional Task Test: Shuttle STS N=13	638 days?	1/2/09	10/1/10	34,36SS	No	
36	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Bloomberg Functional Task Test: Shuttle Initial Upmass on Shuttle	1 day?	1/2/09	1/2/09		No	
37	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Bloomberg Functional Task Test: Shuttle Analysis	183 days?	10/2/10	4/2/11	35	No	
38	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Bloomberg Functional Task Test: Flight Prep 2	548 days?	10/1/08	4/1/10		No	
39	7	5	3	2.33	0	0	0	6.3	0	0	0	1	0 days	420 days		Bloomberg Functional Task Test: ISS N=13	1644 days?	4/2/10	10/1/14	38,40SS	No	
40	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Bloomberg Functional Task Test: ISS Initial Upmass to ISS	1 day?	4/2/10	4/2/10		No	
41	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Bloomberg Functional Task Test: ISS: Information for Health Stds	0 days	10/1/14	10/1/14	39	Yes	Information for Health Stds
42	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Bloomberg Functional Task Test: ISS: Validated CM to mitigate risk	0 days	10/1/14	10/1/14	39	Yes	CM
43	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Bloomberg Functional Task Test: ISS: Information to HSRF	0 days	10/1/14	10/1/14	39	Yes	Information to HSRF
44	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Bloomberg Functional Task Test: ISS: Inform mission ops of performance decrements	0 days	10/1/14	10/1/14	39	Yes	Informing Mission Ops
45	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Bloomberg Functional Task Test: ISS Analysis	366 days?	10/2/14	10/2/15	39	No	
46	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Bloomberg Functional Task Test: Use FTT as CM eval tool?	0 days	10/2/15	10/2/15	45	Yes	
47	6	0	0	#ERROR	0	0	0	6.3	0	0	0	1	0 days	0 days		Bloomberg Functional Task Test: ISS study continued	1461 days?	10/3/15	10/2/19	46	No	
48	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Bloomberg Functional Task Test: Bed Rest Add On N=15	2650 days?	10/1/09	1/1/17		No	
49	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Bloomberg Functional Task Test: Bed Rest Analysis	182 days?	1/2/17	7/2/17	48	No	
50	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Bloomberg Functional Task Test: Bed Rest: All FTT activities feed into a standard recomme	0 days	7/2/17	7/2/17	49	Yes	Recommend Update to Health Stds
51																						
52	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Hypovolemia Task**	**459 days?**	**10/1/08**	**1/2/10**		**No**	
53	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Hypovolemia Factor	366 days?	10/1/08	10/1/09		No	
54	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Hypovolemia Factor Analysis	93 days?	10/2/09	1/2/10	53	No	
55																						
56	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gender Factor Task**	**459 days?**	**10/1/08**	**1/2/10**		**No**	
57	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Gender Factor	366 days?	10/1/08	10/1/09		No	
58	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Gender Factor Analysis	93 days?	10/2/09	1/2/10	57	No	
59																						
60	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Level of Fitness Factor Task**	**459 days?**	**10/1/09**	**1/2/11**		**No**	
61	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Level of Fitness Factor	366 days?	10/1/09	10/1/10		No	
62	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Level of Fitness Factor Analysis	93 days?	10/2/10	1/2/11	61	No	
63																						
64	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Muscle Gap 1	0 days	10/2/19	10/2/19	37FF,47FF,49F	Yes	Done with Gap
65																						
66	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 2: (M3) Tasks for Lunar / Mars missions; (M4) Physiological costs; (M6) Standardized perf**	**1189 days?**	**10/1/07**	**1/1/11**		**No**	
67																						
68	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Critical Mission Task Assessment Task**	**1189 days?**	**10/1/07**	**1/1/11**		**No**	
69	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Critical Mission Task Assessment	1097 days?	10/1/07	10/1/10		No	
70	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Critical Mission Task Assessment Analysis	92 days?	10/2/10	1/1/11	69	No	
71	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Critical Mission Task Assessment: Inform mission ops of performance decrements	0 days	1/1/11	1/1/11	70	Yes	Informing Mission Ops
72	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Critical Mission Task Assessment: Information for Health Stds of performance decrements	0 days	1/1/11	1/1/11	70	Yes	Information for Health Stds
73																						
74	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Muscle Gap 2	0 days	1/1/11	1/1/11	70	Yes	Done with Gap
75																						
76	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 3: (M7-9) Exercise volumes, regimens, equipment; (M10) Ground-based studies to optimiz**	**4297 days?**	**4/1/08**	**1/5/20**		**No**	
77																						
78	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Adams Integrated CM Using Gravity-Independent Device Task**	**2924 days?**	**4/1/08**	**4/3/16**		**No**	
79	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Adams Integrated CM Using Gravity-Independent Device	1553 days?	4/1/08	7/1/12		No	
80	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Adams Integrated CM Using Gravity-Independent Device Analysis	93 days?	7/2/12	10/2/12	79	No	
81	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Adams Integrated CM Using Gravity-Independent Device: Validate prescription?	0 days	10/2/12	10/2/12	80	Yes	
82	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Adams Integrated CM Using Gravity-Independent Device Prep	549 days?	10/1/11	4/1/13		No	
83	12	5	3	4	0	0	9	2	0	0	27	1	0 days	720 days		Adams Integrated CM Using Gravity-Independent Device Flight Validation Studies	1006 days?	4/2/13	1/2/16	81,82,84SS	No	
84	0	0	0	#ERROR	75	0	0	0	0	0	0	1	0 days	0 days		Adams Integrated CM Using Gravity-Independent Device Initial Upmass to ISS	1 day?	4/2/13	4/2/13		No	
85	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Adams Integrated CM Using Gravity-Independent Device Flight Analysis	89 days?	1/3/16	3/31/16	83	No	
86	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Adams Integrated CM Using Gravity-Independent Device: Is muscle protected for Mars tran	0 days	4/3/16	4/3/16	85	Yes	
87	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Adams Integrated CM Using Gravity-Independent Device: CM	0 days	4/3/16	4/3/16	86	Yes	CM
88	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Adams Integrated CM Using Gravity-Independent Device: Information for Health Stds	0 days	4/3/16	4/3/16	86	Yes	Information for Health Stds
89	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Adams Integrated CM Using Gravity-Independent Device: Inform mission ops that muscle p	0 days	4/3/16	4/3/16	86	Yes	Informing Mission Ops
90																						
91	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Flywheel Optimization Task**	**3107 days?**	**1/1/10**	**7/4/18**		**No**	
92	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Flywheel Optimization	1462 days?	1/1/10	1/1/14		No	
93	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Flywheel Optimization Analysis 1	182 days?	1/2/14	7/2/14	92	No	
94	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Flywheel Optimization: Is flywhel protective?	0 days	7/2/14	7/2/14	93	Yes	
95	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Flywheel Optimization Prep	457 days?	7/3/14	10/2/15	94	No	
96	12	5	3	4	0	0	9	2	0	0	27	1	0 days	720 days		Flywheel Optimization Flight Validation	914 days?	10/3/15	4/3/18	95,97SS	No	
97	0	0	0	#ERROR	75	0	0	0	0	0	0	1	0 days	0 days		Flywheel Optimization Initial Upmass to ISS	1 day?	10/1/15	10/1/15		No	
98	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Flywheel Optimization Analysis 2	92 days?	4/4/18	7/4/18	96	No	
99	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Flywheel Optimization: Is muscle protected for Mars transit?	0 days	7/4/18	7/4/18	98	Yes	
100	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Flywheel Optimization: Update SFHSS muscle standard	0 days	7/4/18	7/4/18	99	Yes	Recommend Update to Health Stds
101	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Flywheel Optimization: Inform mission ops about hardware options and prescriptions	0 days	7/4/18	7/4/18	99	Yes	Informing Mission Ops
102	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Flywheel Optimization: Validated CM to mitigate risk	0 days	7/4/18	7/4/18	99	Yes	CM
103																						
104	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**New H/W Development Task**	**2835 days?**	**10/1/10**	**7/5/18**		**No**	
105	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		New H/W Development	1097 days?	10/1/10	10/1/13		No	
106	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		New H/W Development Analysis	93 days?	10/2/13	1/2/14	105	No	
107	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		New H/W Development: Select Best Device	0 days	1/2/14	1/2/14	106	Yes	
108	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		New H/W Development Prep	547 days?	1/3/14	7/3/15	107	No	
109	12	5	3	4	0	0	9	2	0	0	27	1	0 days	720 days		New H/W Development Flight Validation	1006 days?	7/4/15	4/4/18	108,110SS	No	
110	0	0	0	#ERROR	75	0	0	0	0	0	0	1	0 days	0 days		New H/W Development Initial Upmass to ISS	1 day?	7/4/15	7/4/15		No	
111	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		New H/W Development Flight Analysis	92 days?	4/5/18	7/5/18	109	No	
112	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		New H/W Development: Is device used for Mars transit?	0 days	7/5/18	7/5/18	111	Yes	
113	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		New H/W Development: Informing Mission Ops	0 days	7/5/18	7/5/18	112	Yes	Informing Mission Ops
114	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		New H/W Development: Recommend Update to Health Stds	0 days	7/5/18	7/5/18	112	Yes	Recommend Update to Health Stds
115	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		New H/W Development: CM	0 days	7/5/18	7/5/18	112	Yes	CM
116																						
117	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**sDTO Harness Comfort Study Task**	**643 days?**	**7/1/09**	**4/4/11**		**No**	
118	12	5	3	4	0.67	0	0	0	2.01	0	0	1	0 days	720 days		sDTO Harness Comfort Study	550 days?	7/1/09	1/1/11	119SS	No	
119	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		sDTO Harness Comfort Study Initial Upmass to ISS	1 day?	7/1/09	7/1/09		No	
120	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		sDTO Harness Comfort Study Analysis	93 days?	1/2/11	4/4/11	118	No	
121	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		sDTO Harness Comfort Study: Improved loading?	0 days	4/4/11	4/4/11	120	Yes	
122	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		sDTO Harness Comfort Study: Information to HSRF	0 days	4/4/11	4/4/11	121	Yes	Information to HSRF



Project: IRPMonica4
Date: 1/9/09

Task | Progress | Summary | External Tasks | Deadline | Task | Task | Task | Task | External Milestone | External Milestone
Split | Milestone | Project Summary | External Milestone | Task | Task | Task | Task | Task | External Milestone | External Milestone

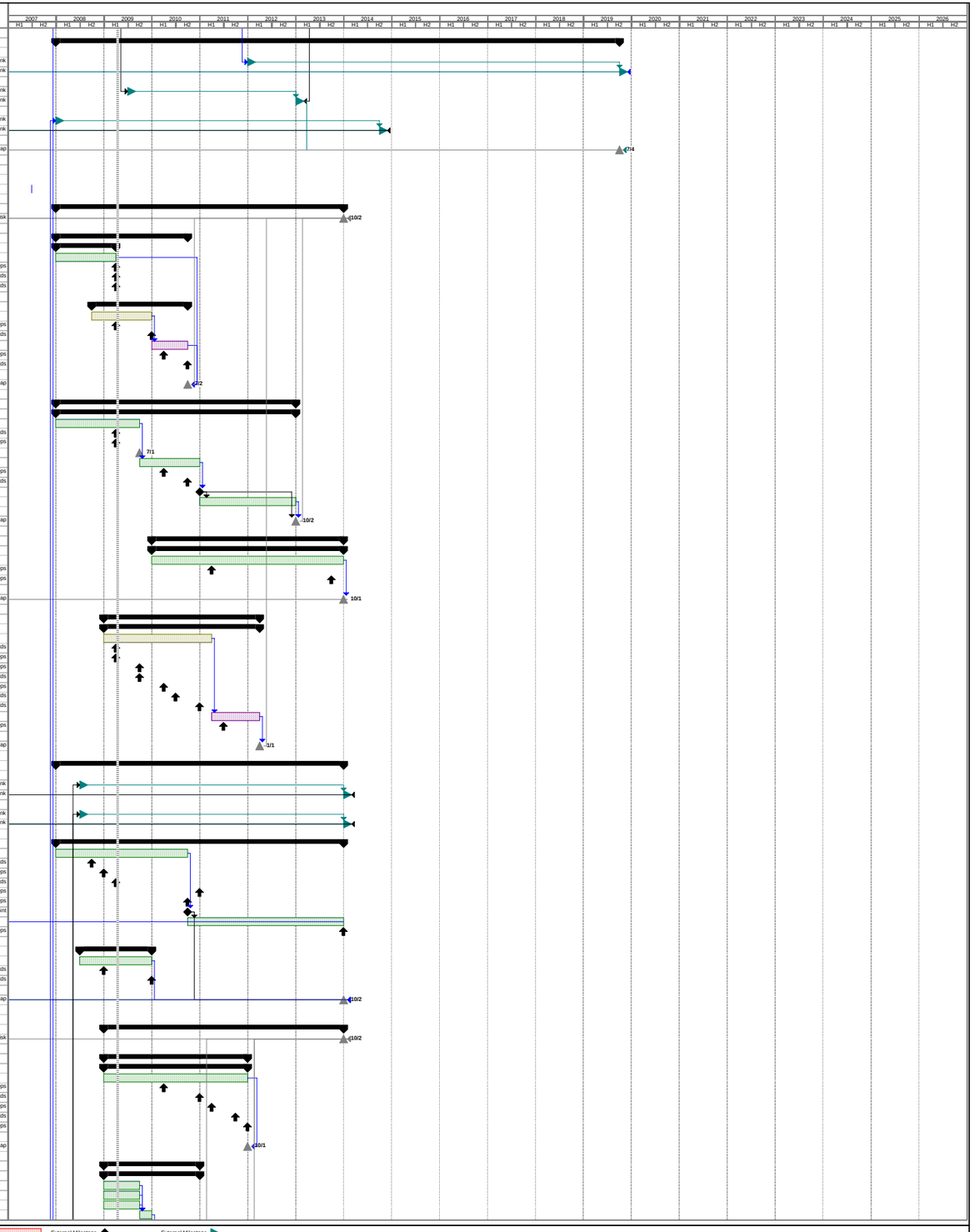
ID	Total Subjects Required	Propensity to Vounteer (1-5)	Volunteers/ Increment	Total Increments Required	Upmass/ Increment Subject	Downmass/ Increment Subject	Crew Time/ Increment Subject	BDC Time/ Increment	Upmass Increment	Downmass Increment (calc)	Crew Time/ Increment (calc)	Resources Exist?	IRP Duration	Duration ISS-Subjects Required	Resource Names	Task Name	Duration	Start	Finish	Predecessors	Milestone	Milestone Type
123																						
124	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Integrated Muscle CM Study Task**	**3019 days?**	**10/1/11**	**1/5/20**		**No**	
125	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Integrated Muscle CM Study: Improved CM studies	1370 days?	10/1/11	7/1/15		No	
126	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Integrated Muscle CM Study Analysis	93 days?	7/2/15	10/2/15	125	No	
127	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Integrated Muscle CM Study: Select best CM	0 days	10/2/15	10/2/15	126	Yes	
128	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Integrated Muscle CM Study Prep	549 days?	10/2/15	4/2/17	142	No	
129	12	5	3	4	0	0	0	0	0	0	0	1	0 days	720 days		Integrated Muscle CM Study Flight Validation	914 days?	4/4/17	10/4/19	128,130SS	No	
130	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Integrated Muscle CM Study Flight Validation Initial Upmass to ISS	1 day?	4/4/17	4/4/17		No	
131	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Integrated Muscle CM Study Flight Analysis	93 days?	10/5/19	1/5/20	129	No	
132	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		IntegratedMuscle CM Study: Is muscle protected for Mars transit?	0 days	1/5/20	1/5/20	131	Yes	
133	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Integrated Muscle CM Study: CM	0 days	1/5/20	1/5/20	132	Yes	CM
134	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Integrated Muscle CM Study: Informing Mission Ops	0 days	1/5/20	1/5/20	132	Yes	Informing Mission Ops
135	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Integrated Muscle CM Study: Based on data from all studies, recommend standard update	0 days	1/5/20	1/5/20	132	Yes	Recommend Update to Health Stds
136																						
137	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**ISS Exercise Prescription* Task**	**2102 days?**	**7/1/09**	**4/2/15**		**No**	
138	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		ISS Exercise Prescription* Prep	550 days?	7/1/09	1/1/11		No	
139	12	5	3	4	0	0	9	2	0	0	27	1	0 days	720 days		ISS Exercise Prescription* N=12	1370 days?	1/2/11	10/2/14	138,140SS	No	
140	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		ISS Exercise Prescription* Initial Upmass to ISS	1 day?	1/1/11	1/1/11		No	
141	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		ISS Exercise Prescription* Analysis	182 days?	10/3/14	4/2/15	139	No	
142	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		ISS Exercise Prescription*: Is current CM protective?	0 days	4/2/15	4/2/15	141	Yes	
143	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		ISS Exercise Prescription*: Information for Health Stds	0 days	4/2/15	4/2/15	141,142	Yes	Information for Health Stds
144	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		ISS Exercise Prescription*: Information to HSRF	0 days	4/2/15	4/2/15	141,142	Yes	Information to HSRF
145																						
146	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Hydration Effects on Muscle Task**	**1189 days?**	**4/1/09**	**7/2/12**		**No**	
147	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Hydration Effects on Muscle	1097 days?	4/1/09	4/1/12		No	
148	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Hydration Effects on Muscle Analysis	92 days?	4/2/12	7/2/12	147	No	
149																						
150	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gender Effects on Muscle Task**	**1189 days?**	**4/1/09**	**7/2/12**		**No**	
151	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Gender Effects on Muscle	1097 days?	4/1/09	4/1/12		No	
152	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Gender Effects on Muscle Analysis	92 days?	4/2/12	7/2/12	151	No	
153																						
154	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Muscle Gap 3	0 days	1/5/20	1/5/20	99FF,112FF,12	Yes	Done with Gap
155																						
156	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 4: (N9) Nutrition mitigate muscle loss? (N15) Nutrition can mitigate oxidative risks?**	**3106 days?**	**4/1/07**	**10/1/15**		**No**	
157																						
158	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Reid Redox Modulation of Muscle Function Task**	**3106 days?**	**4/1/07**	**10/1/15**		**No**	
159	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Reid Redox Modulation of Muscle Function	915 days?	4/1/07	10/1/09		No	
160	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Reid Redox Modulation of Muscle Function Analysis	93 days?	10/2/09	1/2/10	159	No	
161	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Reid Redox Modulation of Muscle Function: Based on data from PI pursue study?	0 days	1/2/10	1/2/10	160	Yes	
162	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Reid Redox Modulation of Muscle Function: TBD Task; IRP update required	2098 days?	1/3/10	10/1/15	161	No	
163																						
164	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Muscle Gap 4	0 days	10/1/15	10/1/15	162,161	Yes	Done with Gap
165																						
166	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 5: (M10) Correct Lunar ground-based studies?**	**6484 days?**	**1/1/08**	**10/1/25**		**No**	
167																						
168	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Lunar EVA Study**	**5115 days?**	**10/1/11**	**10/1/25**		**No**	
169	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lunar EVA Study:	914 days?	10/1/11	4/1/14		No	
170	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lunar EVA Study: Analysis	184 days?	4/2/14	10/2/14	169	No	
171	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lunar EVA Study: Is Lunar EVA protective?	0 days	10/2/14	10/2/14	170	Yes	Decision Point
172	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lunar EVA Study: Inform mission ops of potential lunar CM	0 days	10/2/14	10/2/14	171	Yes	Informing Mission Ops
173	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lunar EVA Study: Lunar Bed Rest CM Studies	1643 days?	10/3/14	4/2/19	171	No	
174	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lunar EVA Study: Lunar Bed Rest CM Studies Analysis	93 days?	4/3/19	7/4/19	173	No	
175	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lunar EVA Study: Lunar Validation Studies	1096 days?	4/1/20	4/1/23		No	
176	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lunar EVA Study: Yes or No	0 days	4/1/23	4/1/23	175	Yes	Decision Point
177	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lunar EVA Study: Validated lunar CM to mitiate risk	0 days	4/1/23	4/1/23	176	Yes	CM
178	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lunar EVA Study: Lunar CM studies	914 days?	4/2/23	10/1/25	176	No	
179																						
180	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Lunar Analog development * Task**	**1282 days?**	**4/1/09**	**10/3/12**		**No**	
181	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lunar Analog development * Pilot	457 days?	4/1/09	7/1/10		No	
182	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lunar Analog development * Bed Rest N=12	641 days?	7/2/10	4/2/12	181	No	
183	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lunar Analog development * Analysis	184 days?	4/3/12	10/3/12	182	No	
184																						
185	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Lang An Integrated Musculoskeletal CM Battery (Start)	0 days	1/1/08	1/1/08	1749SS	Yes	Link
186	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Lang An Integrated Musculoskeletal CM Battery (Finish)	0 days	7/1/14	7/1/14	185,175BFF	Yes	Link
187																						
188	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Muscle Gap 5	0 days	7/4/19	7/4/19	174FF,186FF,1	Yes	Done with Gap
189																						
190																						
191	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Risk of Reduced Physical Performance Capabilities Due to Reduced Aerobic Capacity**	**5217 days?**	**10/1/07**	**1/12/22**		**No**	
192	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Pre-Lunar Aerobic	0 days	1/12/22	1/12/22	211FF,237FF,2	Yes	Done with Risk
193																						
194	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 1: (M7-9) Exercise volumes, regimens, equipment**	**4297 days**	**4/1/08**	**1/5/20**		**No**	
195																						
196	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Adams Integrated CM Using Gravity-Independent Device (Start)	0 days	4/1/08	4/1/08	78SS	Yes	Link
197	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Adams Integrated CM Using Gravity-Independent Device (Finish)	0 days	4/3/16	4/3/16	196,78FF	Yes	Link
198																						
199	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Flywheel Optimization Task (Start)	0 days	1/1/10	1/1/10	91SS	Yes	Link
200	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Flywheel Optimization Task (Finish)	0 days	10/7/18	10/7/18	199,91FF	Yes	Link
201																						
202	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to New H/W Development Task (Start)	0 days	1/1/11	1/1/11	104SS	Yes	Link
203	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to New H/W Development Task (Finish)	0 days	7/8/18	7/8/18	202,104FF	Yes	Link
204																						
205	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Integrated Muscle CM Study (Start)	0 days	10/1/11	10/1/11	124SS	Yes	Link
206	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Integrated Muscle CM Study (Finish)	0 days	1/5/20	1/5/20	205,124FF	Yes	Link
207																						
208	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to ISS Exercise Prescription Task (Start)	0 days	7/1/09	7/1/09	137SS	Yes	Link
209	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to ISS Exercise Prescription Task (Finish)	0 days	4/3/15	4/3/15	208,137FF	Yes	Link
210																						
211	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Aerobic Gap 1	0 days	1/5/20	1/5/20	197FF,200FF,2	Yes	Done with Gap
212																						
213	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 2: (M2) What is the current status of in / post-flight exercise performance capability? (CV2**	**5217 days?**	**10/1/07**	**1/12/22**		**No**	
214																						
215	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Lee Hypovolemia Studies/VO2 add on Task**	**1188 days?**	**10/1/07**	**12/31/10**		**No**	
216	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lee Hypovolemia Studies/VO2 add on	1188 days?	10/1/07	12/31/10		No	
217																						
218	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Moore ISS VO2 Max SMO Task**	**4298 days?**	**10/1/07**	**7/8/19**		**No**	
219	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Moore ISS VO2 Max SMO: Prep	549 days?	10/1/07	4/1/09		No	
220	12	5	3	4	3.17	0	9	3	9.51	0	27	1	0 days	720 days		Moore ISS VO2 Max SMO: N=12	1372 days?	4/2/09	1/2/13	221SS,219	No	
221	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Moore ISS VO2 Max SMO: Initial Upmass to ISS	1 day?	4/1/09	4/1/09		No	
222	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Moore ISS VO2 Max SMO: Analysis	182 days?	1/3/13	7/3/13	220	No	
223	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Moore ISS VO2 Max SMO: Is current CM protective?	0 days	7/3/13	7/3/13	222	Yes	
224	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Moore ISS VO2 Max SMO: Information to HSRF	0 days	7/3/13	7/3/13	222	Yes	Information to HSRF
225	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Moore ISS VO2 Max SMO: Information for Health Stds	0 days	7/3/13	7/3/13	222	Yes	Information for Health Stds
226	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Moore ISS VO2 Max SMO: Improved CM Studies	1370 days?	1/1/11	10/1/14		No	
227	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Moore ISS VO2 Max SMO: Select best CM	0 days	10/1/14	10/1/14	226	Yes	
228	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Moore ISS VO2 Max SMO: Prep for Validation	552 days?	10/1/14	4/4/16	223	No	
229	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Moore ISS VO2 Max SMO: CM Analysis	92 days?	4/5/16	7/5/16	228	No	
230	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Moore ISS VO2 Max SMO Flight Validation	1005 days?	7/6/16	4/6/19	231SS,229	No	
231	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Moore ISS VO2 Max SMO Initial Upmass to ISS for Validation	1 day?	7/6/16	7/6/16		No	
232	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Moore ISS VO2 Max SMO Flight Analysis	92 days?	4/7/19	7/7/19	230	No	
233	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Moore ISS VO2 Max SMO: Is VO2 Max protected for Mars transit?	0 days	7/8/19	7/8/19	232	Yes	
234	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Moore ISS VO2 Max SMO: CM to mitigate risk	0 days	7/8/19	7/8/19	233	Yes	CM
235	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Moore ISS VO2 Max SMO: Inform mission Ops	0 days	7/8/19	7/8/19	233	Yes	Informing Mission Ops
236																						
237	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Aerobic Gap 2	0 days	1/12/22	1/12/22	216FF,233FF,2	Yes	Done with Gap
238																						
239	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 3: (M3) Tasks for Exploration missions; (M4) Metabolic costs; (M6) performance measure**	**1189 days**	**10/1/07**	**1/1/11**		**No**	
240																						
241	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Critical Mission Task Assessment (Start)	0 days	10/1/07	10/1/07	68SS	Yes	Link
242	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Critical Mission Task Assessment (Finish)	0 days	1/1/11	1/1/11	241,68FF	Yes	Link
243																						
244	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Aerobic Gap 3	0 days	1/1/11	1/1/11	242FF	Yes	Done with Gap



Project: IRPMonica4
Date: 1/5/09

Task | Progress | Summary | External Tasks | Deadline | Task | Task | Task | Task | External Milestone | External Milestone
Split | Milestone | Project Summary | External Milestone | Task | Task | Task | Task | Task | External Milestone

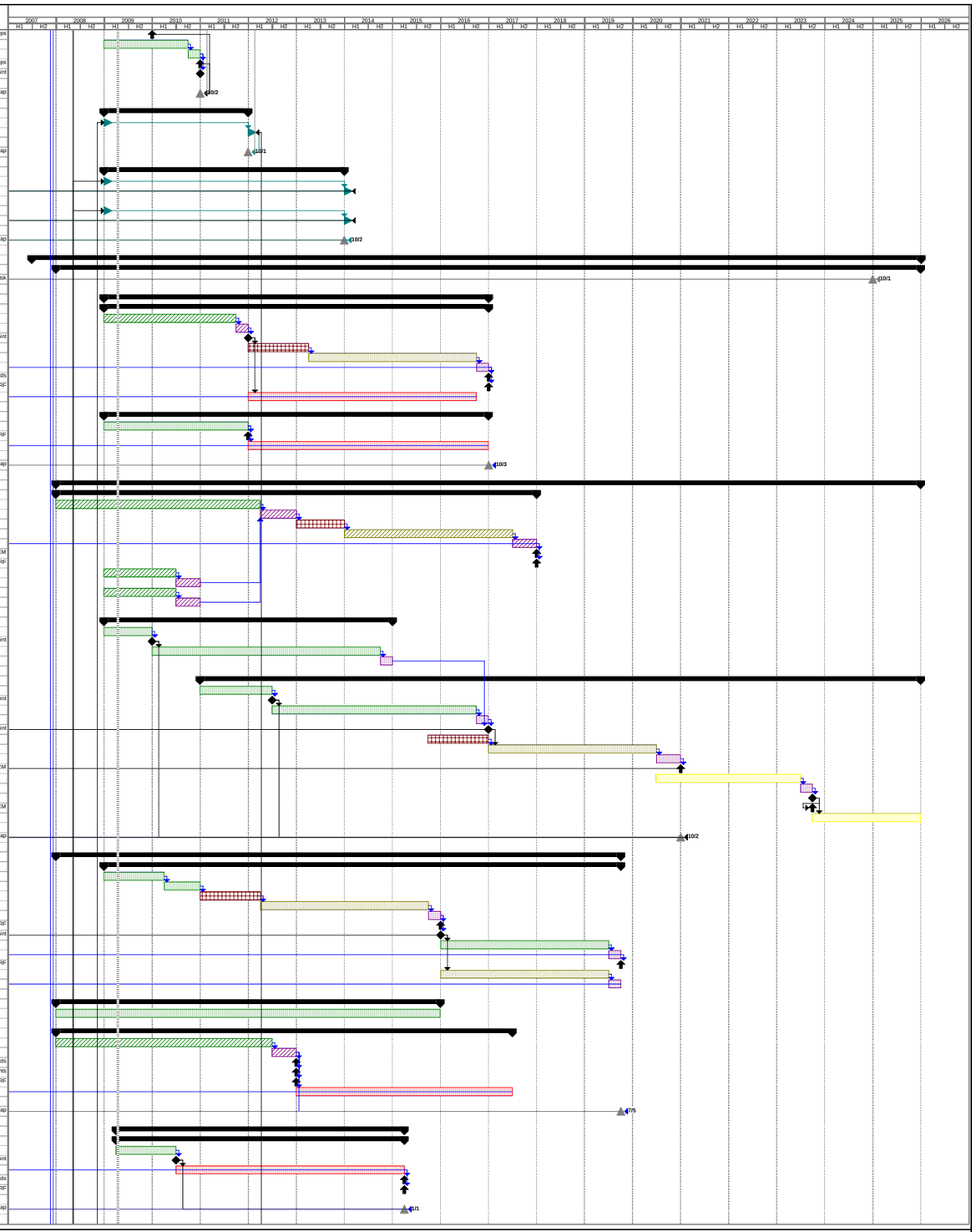
ID	Total Subjects Required	Propensity to Volunteer (1-5)	Volunteers/ Increment	Total Increments Required	Upmass/ Increment Subject	Downmass/ Increment Subject	Crew Time/ Increment Subject	BDC Time/ Increment	Upmass Scremer	Downmass Increment (calc)	Crew Time/ Increment (calc)	Resources Exist?	IRP Duration	Duration ISS-Subjects Required	Resource Names	Task Name	Duration	Start	Finish	Predecessors	Milestone	Milestone Type
245																						
246	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 4: (M107) Correct Lunar ground-based studies?**	**4295 days**	**10/1/07**	**7/4/19**		**No**	
247																						
248	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Lunar EVA Study (Start)	0 days	10/1/11	10/1/11	169SS	Yes	Link
249	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Lunar EVA Study (Finish)	0 days	7/4/19	7/4/19	248,174FF	Yes	Link
250																						
251	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Lunar Analog development * Task (Start)	0 days	4/1/09	4/1/09	180SS	Yes	Link
252	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Lunar Analog development * Task (Finish)	0 days	10/3/12	10/3/12	251,180FF	Yes	Link
253																						
254	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Lang An Integrated Musculoskeletal CM Battery for Long-Duration Lunar Missions Task (	0 days	10/1/07	10/1/07	17495S	Yes	Link
255	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Lang An Integrated Musculoskeletal CM Battery for Long-Duration Lunar Missions Task (	0 days	7/1/14	7/1/14	254,175SFF	Yes	Link
256																						
257	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Aerobic Gap 4	0 days	7/4/19	7/4/19	252FF,255FF,2	Yes	Done with Gap
258																						
259																						
260																						
261	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Risk of Compromised EVA Performance and Crew Health Due to Inadequate EVA Suit Systems	1 day?	4/1/07	4/1/07		No	
262																						
263	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Risk of Reduced Safety and Efficiency Due to Poor Human Factors Design**	**2194 days?**	**10/1/07**	**10/2/13**		**No**	
264	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Pre-Lunar Reduced Safety	0 days	10/2/13	10/2/13	281FF,295FF,3	Yes	Done with Risk
265																						
266	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 1: SHFE 2.1.8.1 How can we determine the effects of combined vibration and acceleration**	**1006 days?**	**10/1/07**	**7/2/10**		**No**	
267	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Effects of Vibration and Acceleration on Performance.**	**459 days?**	**10/1/07**	**1/2/09**		**No**	
268	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Vibration and Acceleration: Centrifuge study	459 days?	10/1/07	1/1/09		No	
269	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Vibration and Acceleration: Recommendations for Orion PDR	0 days	1/1/09	1/1/09		Yes	Informing Mission Ops
270	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Vibration and Acceleration: Recommendations and eventual CR to NASA Standard, HIDH,	0 days	1/2/09	1/2/09		Yes	Information for Health Stds
271	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Vibration and Acceleration: Recommendations and eventual CR to NASA Standard, HIDH,	0 days	1/2/09	1/2/09		Yes	Recommend Update to Health Stds
272																						
273	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**SDBI 1904 – Effects of Vibration during Launch**	**732 days?**	**7/1/08**	**7/2/10**		**No**	
274	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Vibration during Launch: STS SDBI	458 days?	7/1/08	10/1/09		No	
275	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Vibration during Launch: Recommendations for Orion PDR	0 days	1/1/09	1/1/09		Yes	Informing Mission Ops
276	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Vibration during Launch: Recommendations and eventual CR to NASA Standard, HIDH 1	0 days	10/1/09	10/1/09		Yes	Information for Health Stds
277	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Vibration during Launch: Analysis	274 days?	10/2/09	7/2/10	274	No	
278	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Vibration during Launch: Design solutions for Orion CDR	0 days	1/1/10	1/1/10		Yes	Informing Mission Ops
279	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Vibration during Launch: Recommendations and eventual CR to NASA Standard, HIDH 2	0 days	7/1/10	7/1/10		Yes	Recommend Update to Health Stds
280																						
281	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Reduced Safety Gap 1	0 days	7/2/10	7/2/10	268FF,277FF	Yes	Done with Gap
282																						
283	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 2: SHFE 2.1.9.1: How do we develop validated tools and models to verify Constellation ve**	**1829 days?**	**10/1/07**	**10/2/12**		**No**	
284	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Acoustic Modeling:**	**1829 days?**	**10/1/07**	**10/2/12**		**No**	
285	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Acoustic Modeling: Develop acoustic models	640 days?	10/1/07	7/1/09		No	
286	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Acoustic Modeling: Recommendations to HIDH	0 days	1/1/09	1/1/09		Yes	Information for Health Stds
287	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Acoustic Modeling: Guidelines and Req. for noise levels Recommendations for materials Mo	0 days	1/1/09	1/1/09		Yes	Informing Mission Ops
288	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Acoustic Modeling: Delivery of Orion Model to Orion Project prior to CDR	0 days	7/1/09	7/1/09		Yes	
289	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Acoustic Modeling: Update & Validation of acoustic Models of increasing complexity	458 days?	7/2/09	10/2/10	285	No	
290	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Acoustic Modeling: Guidelines and Req. for noise levels Recommendations for materials Mo	0 days	1/1/10	1/1/10		Yes	Informing Mission Ops
291	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Acoustic Modeling: CR to HIDH for Orion CDR	0 days	7/1/10	7/1/10		Yes	Recommend Update to Health Stds
292	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Acoustic Modeling: Complexity of Models Adequate?	0 days	10/2/10	10/2/10	289	Yes	
293	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Acoustic Modeling: Continue refinement and maturing of models	731 days?	10/3/10	10/2/12	292	No	
294																						
295	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Reduced Safety Gap 2	0 days	10/2/12	10/2/12	293,292	Yes	Done with Gap
296																						
297	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 3: SHFE 2.3.a (SBIR): How can crews easily document human factors related issues that**	**1462 days?**	**10/1/09**	**10/1/13**		**No**	
298	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Semantic Language and Tools for Reporting Human Factors Incidents**	**1462 days?**	**10/1/09**	**10/1/13**		**No**	
299	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Human Factors Incidents: Design, development, and implementation of information database	1462 days?	10/1/09	10/1/13		No	
300	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Human Factors Incidents: Required for Input to Lander SRR	0 days	1/1/11	1/1/11		Yes	Informing Mission Ops
301	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Human Factors Incidents: Final tool delivery for Lander PDR	0 days	7/1/13	7/1/13		Yes	Informing Mission Ops
302																						
303	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Reduced Safety Gap 3	0 days	10/1/13	10/1/13	299	Yes	Done with Gap
304																						
305	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 4: SHFE 2.3.1.1: What is the effect of microgravity on spinal elongation?**	**1188 days?**	**10/1/08**	**1/1/12**		**No**	
306	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Spinal Elongation**	**1188 days?**	**10/1/08**	**1/1/12**		**No**	
307	5	5	3	1.67	0	0	5	0.25	0	0	15	1	0 days	300 days		Spinal Elongation: ISS/STS flight study	823 days?	10/1/08	1/1/11		No	
308	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Spinal Elongation: information transfer to NASA Standard, HSIR, HIDH 1	0 days	1/1/09	1/1/09		Yes	Information for Health Stds
309	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Spinal Elongation: Interim results/recommendations to Orion PDR	0 days	1/1/09	1/1/09		Yes	Informing Mission Ops
310	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Spinal Elongation: Interim results/recommendations to PDR Suit-1	0 days	7/1/09	7/1/09		Yes	Informing Mission Ops
311	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Spinal Elongation: CR to NASA Standard, HSIR, HIDH, NASA Crewmember Medical 1	0 days	7/1/09	7/1/09		Yes	Recommend Update to Health Stds
312	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Spinal Elongation: Design solutions to Orion CDR	0 days	1/1/10	1/1/10		Yes	Informing Mission Ops
313	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Spinal Elongation: information transfer to NASA Standard, HSIR, HIDH 2	0 days	4/1/10	4/1/10		Yes	Information for Health Stds
314	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Spinal Elongation: CR to NASA Standard, HSIR, HIDH, NASA Crewmember Medical 2	0 days	10/1/10	10/1/10		Yes	Recommend Update to Health Stds
315	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Spinal Elongation: Analysis	365 days?	1/2/11	1/1/12	307	No	
316	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Spinal Elongation: Design solutions to CDR Suit-1	0 days	4/1/11	4/1/11		Yes	Informing Mission Ops
317																						
318	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Reduced Safety Gap 4	0 days	1/1/12	1/1/12	315	Yes	Done with Gap
319																						
320	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 5: SHFE 3.1.2.2.a: How do we ensure that the displays and control designs and technolo**	**2194 days?**	**10/1/07**	**10/2/13**		**No**	
321																						
322	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Displays (auditory/visual) Development (Start)	0 days	4/1/08	4/1/08	1122SS	Yes	Link
323	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Displays (auditory/visual) Development (Finish)	0 days	10/2/13	10/2/13	322,1122FF	Yes	Link
324																						
325	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Controls Technology Survey and Testing (Start)	0 days	4/1/08	4/1/08	1135SS	Yes	Link
326	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Controls Technology Survey and Testing (Finish)	0 days	10/2/13	10/2/13	325,1135FF	Yes	Link
327																						
328	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Electronic Procedures**	**2194 days?**	**10/1/07**	**10/2/13**		**No**	
329	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Electronic Procedures: Evaluate advanced concepts for electronic procedures Formatting a	1005 days?	10/1/07	7/1/10		No	
330	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Electronic Procedures: Info to HSIR, HIDH, Orion Display Standards Documentation	0 days	7/1/08	7/1/08		Yes	Information for Health Stds
331	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Electronic Procedures: Procedure Design Recommendations/Solutions for Orion 1	0 days	10/1/08	10/1/08		Yes	Informing Mission Ops
332	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Electronic Procedures: CR to HSIR, HIDH, Orion Display Standards Documentation	0 days	1/1/09	1/1/09		Yes	Recommend Update to Health Stds
333	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Electronic Procedures: Procedure Design Recommendations/Solutions for Orion 2	0 days	10/1/10	10/1/10		Yes	Informing Mission Ops
334	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Electronic Procedures: Procedure Req'ts For Lander	0 days	7/1/10	7/1/10		Yes	Informing Mission Ops
335	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Electronic Procedures: Are electronic procedures standards adequate for Lander Project?	0 days	7/1/10	7/1/10	329	Yes	Decision Point
336	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Electronic Procedures: Dev. Procedure standards for displays	1189 days?	7/2/10	10/2/13	335	No	
337	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Electronic Procedures: Design Solutions for Procedures	0 days	10/1/13	10/1/13		Yes	Informing Mission Ops
338																						
339	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Human Performance Modeling**	**549 days?**	**4/1/08**	**10/1/09**		**No**	
340	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Human Performance Modeling: Develop and report on approach to expanding human capa	549 days?	4/1/08	10/1/09		No	
341	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Human Performance Modeling: Info obtained to be provided to HIDH and later via CR for fo	0 days	10/1/08	10/1/08		Yes	Information for Health Stds
342	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Human Performance Modeling: Info obtained to be provided to HIDH and later via CR for fo	0 days	10/1/09	10/1/09		Yes	Recommend Update to Health Stds
343																						
344	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Reduced Safety Gap 5	0 days	10/2/13	10/2/13	323FF,326FF,3	Yes	Done with Gap
345																						
346																						
347	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Risk Associated with Poor Task Design**	**1828 days?**	**10/1/08**	**10/2/13**		**No**	
348	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Pre-Lunar Poor Task Design	0 days	10/2/13	10/2/13	359FF,379FF,3	Yes	Done with Risk
349																						
350	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 1: SHFE1.1.1.2.1: How can standard measures or tools be developed that can unobtrusiv**	**1096 days?**	**10/1/08**	**10/1/11**		**No**	
351	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Workload Tools & Guidelines:**	**1096 days?**	**10/1/08**	**10/1/11**		**No**	
352	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Workload Tools & Guidelines: Development, assessment, validation of proposed tools and	1096 days?	10/1/08	10/1/11		No	
353	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Workload Tools & Guidelines: Workload Recommendations/ Solutions for Orion system.	0 days	1/1/10	1/1/10		Yes	Informing Mission Ops
354	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Workload Tools & Guidelines: Recommendations to HSIR, HIDH	0 days	10/1/10	10/1/10		Yes	Information for Health Stds
355	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Workload Tools & Guidelines: Workload recommendations/solutions for Lander SRR	0 days	1/1/11	1/1/11		Yes	Informing Mission Ops
356	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Workload Tools & Guidelines: Requirements to HSIR, HIDH for Lander PDR	0 days	7/1/11	7/1/11		Yes	Recommend Update to Health Stds
357	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Workload Tools & Guidelines: Workload design solutions to Lander PDR	0 days	10/1/11	10/1/11		Yes	Informing Mission Ops
358																						
359	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Poor Task Design Gap 1	0 days	10/1/11	10/1/11	352FF	Yes	Done with Gap
360																						
361	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 2: SHFE 1.1.2.1.1 : How can performance, efficiency and safety guidelines be developed f**	**732 days?**	**10/1/08**	**10/2/10**		**No**	
362	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Automation Interface Design Tool (AIDT)**	**732 days?**	**10/1/08**	**10/2/10**		**No**	
363	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		AIDT: Task Decomposition Tool	274 days?	10/1/08	7/1/09		No	
364	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		AIDT: Performance Modeling Tool	274 days?	10/1/08	7/1/09		No	
365	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		AIDT: Interface Prototyping Tool	274 days?	10/1/08	7/1/09		No	
366	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		AIDT: Tool Integration 1	93 days?	7/2/09	10/2/09	363,364,365	No	



Project: IRPMonica4
Date: 1/9/09

Task | Progress | Summary | External Tasks | Deadline | Task | Task | Task | Task | External Milestone | External Milestone
Split | Milestone | Project Summary | External Milestone | Task | Task | Task | Task | Task | External Milestone

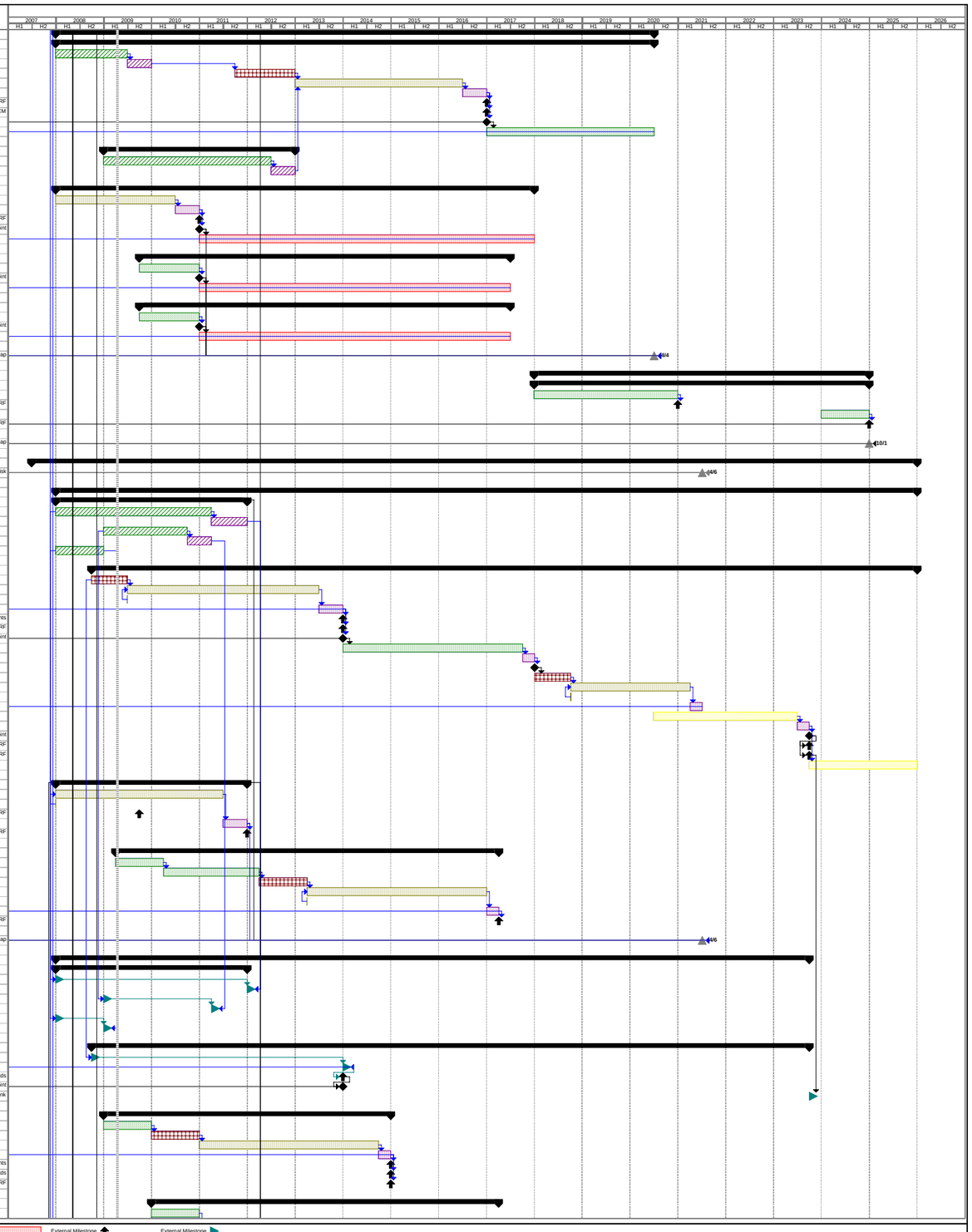
ID	Total Subjects Required	Propensity to Vounteer (1-5)	Volunteers/ Increment	Total Increments Required	Upmass/ Increment Subject	Downmass/ Increment Subject	Crew Time/ Increment Subject	BDC Time/ Increment	Upmass Increment	Downmass Increment (calc)	Crew Time/ Increment (calc)	Resources Exist?	IRP Duration	Duration ISS-Subjects Required	Resource Names	Task Name	Duration	Start	Finish	Predecessors	Milestone	Milestone Type
367	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		AIDT: ISS Mission Ops tools study results delivered	0 days	10/2/09	10/2/09	366	Yes	Informing Mission Ops
368	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		AIDT: Second Domain Suite of tools development	639 days?	10/1/08	7/1/10		No	
369	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		AIDT: Tool Integration 2	93 days?	7/2/10	10/2/10	368	No	
370	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		AIDT: Tool version 2.0 works?	0 days	10/2/10	10/2/10	369	Yes	Informing Mission Ops
371	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days			0 days	10/2/10	10/2/10	369	Yes	Decision Point
372																						
373	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Poor Task Design Gap 2	0 days	10/2/10	10/2/10	367FF,370FF	Yes	Done with Gap
374																						
375	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 3: SHFE 3.1.2.2.2.2:How can we develop standard measurement techniques and metrics t**	**1096 days**	**10/1/08**	**10/1/11**		**No**	
376	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Usability Evaluation: (Start)	0 days	10/1/08	10/1/08	1169SS	Yes	
377	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Usability Evaluation: (Finish)	0 days	10/1/11	10/1/11	1169FF,376	Yes	
378																						
379	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Poor Task Design Gap 3	0 days	10/1/11	10/1/11	377FF	Yes	Done with Gap
380																						
381	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 4: SHFE 3.1.2.2.a: How do we ensure that the displays and control designs and technolog**	**1828 days**	**10/1/08**	**10/2/13**		**No**	
382	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Displays (auditory/visual) Development: (Start)	0 days	10/1/08	10/1/08	1122SS	Yes	
383	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Displays (auditory/visual) Development: (Finish)	0 days	10/2/13	10/2/13	1122FF,382	Yes	
384																						
385	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Controls Technology Survey and Testing : (Start)	0 days	10/1/08	10/1/08	1135SS	Yes	
386	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Controls Technology Survey and Testing : (Finish)	0 days	10/2/13	10/2/13	1135FF,385	Yes	
387																						
388	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Poor Task Design Gap 4	0 days	10/2/13	10/2/13	383FF,386FF	Yes	Done with Gap
389																						
390	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**ENSURE THE CREW CAN ACCOMPLISH THE COGNITIVE AND TEAM ASPECTS OF THE MISSION**	**6762 days?**	**4/1/07**	**10/4/25**		**No**	
391	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Risk of Behavioral and Psychiatric Conditions**	**6575 days?**	**10/1/07**	**9/30/25**		**No**	
392	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Pre-Lunar Behavioral	0 days	10/1/24	10/1/24	411FF,449FF,4	Yes	Done with Risk
393																						
394	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 1: BMed1 What are the optimal methods to prevent decrements in behavioral health (whic**	**2925 days?**	**10/1/08**	**10/3/16**		**No**	
395	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Near-infrared Neuroimaging (NIN) for detecting psychiatric conditions**	**2925 days?**	**10/1/08**	**10/3/16**		**No**	
396	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		NIN: Lab Studies: Bio Markers of Depression	1004 days?	10/1/08	7/1/11		No	
397	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		NIN: Depression Analysis	93 days?	7/2/11	10/2/11	396	No	
398	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		NIN: Is technology ready for spaceflight?	0 days	10/2/11	10/2/11	397	Yes	Decision Point
399	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		NIN:	459 days?	10/3/11	1/3/13	398	No	
400	20	5	3	6.67	6	0	5	0	18	0	15	1	0 days	1200 days		NIN: Flight feasibility study	1277 days?	1/4/13	7/3/16	399	No	
401	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		NIN: Flight feasibility study analysis	92 days	7/4/16	10/3/16	400	No	
402	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		NIN: Biomarkers of depression: selection criteria for long duration exploration missions 1	0 days	10/3/16	10/3/16	401	Yes	Information for Health Stds
403	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		NIN: Biomarkers of depression: selection criteria for long duration exploration missions 2	0 days	10/3/16	10/3/16	401	Yes	Information to other HSRF
404	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		NIN: Tasks to be subsequently revised/defined	1734 days?	10/3/11	7/1/16	398	No	
405																						
406	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Prediction of incidence of depression in astronauts**	**2923 days?**	**10/1/08**	**10/1/16**		**No**	
407	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		incidence of depression: Lit Rev. and Meta-Analysis	1096 days?	10/1/08	10/1/11		No	
408	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		incidence of depression: Recommendations to Med Ops based on findings	0 days	10/1/11	10/1/11	407	Yes	Information to other HSRF
409	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		incidence of depression: Ground tasks to be subsequently revised/defined	1827 days?	10/2/11	10/1/16	407	No	
410																						
411	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Behavioral Gap 1	0 days	10/3/16	10/3/16	409FF,401FF,4	Yes	Done with Gap
412																						
413	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 2: BMed3 What are the optimal methods to detect and assess decrements in behavioral h**	**6575 days?**	**10/1/07**	**9/30/25**		**No**	
414	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Unobtrusive Tool -Facial Monitoring Technology**	**3656 days?**	**10/1/07**	**10/3/17**		**No**	
415	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Facial Monitoring: Lab Development	1554 days?	10/1/07	1/1/12		No	
416	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Facial Monitoring: analysis	275 days?	1/2/12	10/2/12	415,423,425	No	
417	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Facial Monitoring:	366 days?	10/3/12	10/3/13	416	No	
418	24	5	3	8	0	0	10	0	0	0	30	1	0 days	1440 days		Facial Monitoring: Flight Validation Studies	1278 days?	10/4/13	4/3/17	417	No	
419	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Facial Monitoring: Flight Validation Studies Analysis	183 days?	4/4/17	10/3/17	418	No	
420	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Facial Monitoring: Countermeasure: Technologies to monitor coping during exploration miss	0 days	10/3/17	10/3/17	419	Yes	CM
421	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Facial Monitoring: Operationalize protocol for ISS	0 days	10/3/17	10/3/17	419	Yes	Information to other HSRF
422	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Facial Monitoring: NEEMO	548 days?	10/1/08	4/1/10		No	
423	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Facial Monitoring: NEEMO Analysis	184 days?	4/2/10	10/2/10	422	No	
424	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Facial Monitoring: RCS	548 days?	10/1/08	4/1/10		No	
425	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Facial Monitoring: RCS Analysis	183 days?	4/2/10	10/1/10	424	No	
426																						
427	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Unobtrusive Tool-Voice Acoustics Monitoring Technology**	**2194 days?**	**10/1/08**	**10/3/14**		**No**	
428	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Voice Acoustics Monitoring: Rev. of Tech	366 days?	10/1/08	10/1/09		No	
429	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Voice Acoustics Monitoring: Approach Feasible?	0 days	10/1/09	10/1/09	428	Yes	Decision Point
430	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Voice Acoustics Monitoring: Ground Validation Studies	1735 days?	10/2/09	7/2/14	429	No	
431	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Voice Acoustics Monitoring: Ground Validation Studies Analysis	93 days?	7/3/14	10/3/14	430	No	
432																						
433	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Unobtrusive Technologies**	**5479 days?**	**10/1/10**	**9/30/25**		**No**	
434	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Unobtrusive Technologies: Rev. of Other Techs	549 days?	10/1/10	4/1/12		No	
435	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Unobtrusive Technologies: Approach Feasible?	0 days	4/1/12	4/1/12	434	Yes	Decision Point
436	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Unobtrusive Technologies: Ground Validation Studies	1552 days?	4/2/12	7/1/16	435	No	
437	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Unobtrusive Technologies: Ground Validation Studies Analysis	92 days?	7/2/16	10/1/16	436	No	
438	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Unobtrusive Technologies: Is unobtrusive technology feasible to assess behavioral health d	0 days	10/1/16	10/1/16	431,437	Yes	Decision Point
439	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Unobtrusive Technologies:	459 days?	7/1/15	10/1/16		No	
440	20	5	3	6.67	0	0	10	0	0	0	30	1	0 days	1200 days		Unobtrusive Technologies: Flight Validation Studies	1278 days?	10/2/16	4/1/20	439,438	No	
441	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Unobtrusive Technologies: Flight Validation Studies Analysis	184 days?	4/2/20	10/2/20	440	No	
442	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Unobtrusive Technologies: Countermeasure: Technologies to monitor coping during explorat	0 days	10/2/20	10/2/20	441	Yes	CM
443	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Unobtrusive Technologies: Lunar Study 1	1096 days?	4/1/20	4/1/23		No	
444	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Unobtrusive Technologies: Lunar Study Analysis	91 days?	4/2/23	7/1/23	443	No	
445	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Unobtrusive Technologies: Are technologies adequate?	0 days	7/1/23	7/1/23	444	Yes	
446	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Unobtrusive Technologies: CM	0 days	7/1/23	7/1/23	445	Yes	CM
447	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Unobtrusive Technologies: Lunar Study 2	821 days?	7/3/23	9/30/25	445	No	
448																						
449	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Behavioral Gap 2	0 days	10/2/20	10/2/20	419FF,442FF,4	Yes	Done with Gap
450																						
451	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 3: BMed4 What aspects, if any, of cognitive performance change during missions? do the**	**4296 days?**	**10/1/07**	**7/5/19**		**No**	
452	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Changes in Cognition and Psychological Well-being in long duration spaceflight**	**3930 days?**	**10/1/08**	**7/5/19**		**No**	
453	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Cognition and Well-being: Lit Review	458 days?	10/1/08	1/1/10		No	
454	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Cognition and Well-being: Workshop	274 days?	1/2/10	10/2/10	453	No	
455	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Cognition and Well-being:	458 days?	10/3/10	1/3/12	454	No	
456	20	5	3	6.67	0	0	10	0	0	0	30	1	0 days	1200 days		Cognition and Well-being: Data Collection:Clinical Cog Changes	1278 days?	1/4/12	7/4/15	455	No	
457	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Cognition and Well-being: Data Collection:Clinical Cog Changes Analysis	92 days?	7/5/15	10/4/15	456	No	
458	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Cognition and Well-being: Update HRSF/Medical Operations with recommendations re: clin	0 days	10/4/15	10/4/15	457	Yes	Information to other HSRF
459	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Cognition and Well-being: Are additional longer duration studies required?	0 days	10/4/15	10/4/15	457	Yes	Decision Point
460	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Cognition and Well-being: Ground-based Studies	1278 days?	10/5/15	4/4/19	459	No	
461	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Cognition and Well-being: Ground-based Studies Analysis	92 days?	4/5/19	7/5/19	460	No	
462	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Cognition and Well-being: Update HRSF/Medical Operations with recommendations re: clin	0 days	7/5/19	7/5/19	461	Yes	Information to other HSRF
463	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Cognition and Well-being: Flight Studies	1278 days?	10/5/15	4/4/19	459	No	
464	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Cognition and Well-being: Flight Studies Analysis	92 days?	4/5/19	7/5/19	463	No	
465																						
466	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**CNS1: Radiation Exposure Acute Functional CNS Effects**	**2923 days?**	**10/1/07**	**10/1/15**		**No**	
467	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		CNS1: Ground based research at NSRL	2923 days?	10/1/07	10/1/15		No	
468																						
469	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Evaluate CNS/ Neurostructural Changes**	**3471 days?**	**10/1/07**	**4/1/17**		**No**	
470	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Neurostructural Changes: Lab Studies- Animals- Assess neurostructural	1645 days?	10/1/07	4/1/12		No	
471	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Neurostructural Changes: Analysis	183 days?	4/2/12	10/1/12	470	No	
472	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Neurostructural Changes: Recommendations regarding CNS effects/neurostructural change	0 days	10/1/12	10/1/12	471	Yes	Information for Health Stds
473	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Neurostructural Changes: Recommendations regarding CNS effects/neurostructural change	0 days	10/1/12	10/1/12	471	Yes	Information to other Elements
474	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Neurostructural Changes: Recommendations regarding CNS effects/neurostructural change	0 days	10/1/12	10/1/12	471	Yes	Information to other HSRF
475	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Neurostructural Changes: Gaps and Activities to be subsequently revised/defined	1643 days?	10/2/12	4/1/17	471	No	
476																						
477	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Behavioral Gap 3	0 days	7/5/19	7/5/19	461FF,464FF,4	Yes	Done with Gap
478																						
479	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 4: BMed6 What psychosocial characteristics predict success in an isolated, confined and**	**2192 days?**	**1/1/09**	**1/1/15**		**No**	
480	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Identify trait/malleable characteristics of high performing individuals**	**2192 days?**	**1/1/09**	**1/1/15**		**No**	
481	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		high performing individuals: Rev. of Lit./Assess Ops	456 days?	1/1/09	4/1/10		No	
482	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		high performing individuals: Are studies needed?	0 days	4/1/10	4/1/10	481	Yes	Decision Point
483	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		high performing individuals: Gaps and Activities to be subsequently revised/defined	1736 days?	4/2/10	1/1/15	482	No	
484	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		high performing individuals: Recommend update to Crew Selection & Retention	0 days	1/1/15	1/1/15	483	Yes	Recommend Update to Health Stds
485	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		high performing individuals: Recommendations to Ops regarding optimal psychosocial char	0 days	1/1/15	1/1/15	483	Yes	Information to other HSRF
486																						
487	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Behavioral Gap 4	0 days	1/1/15	1/1/15	483FF,482FF	Yes	Done with Gap
488																						



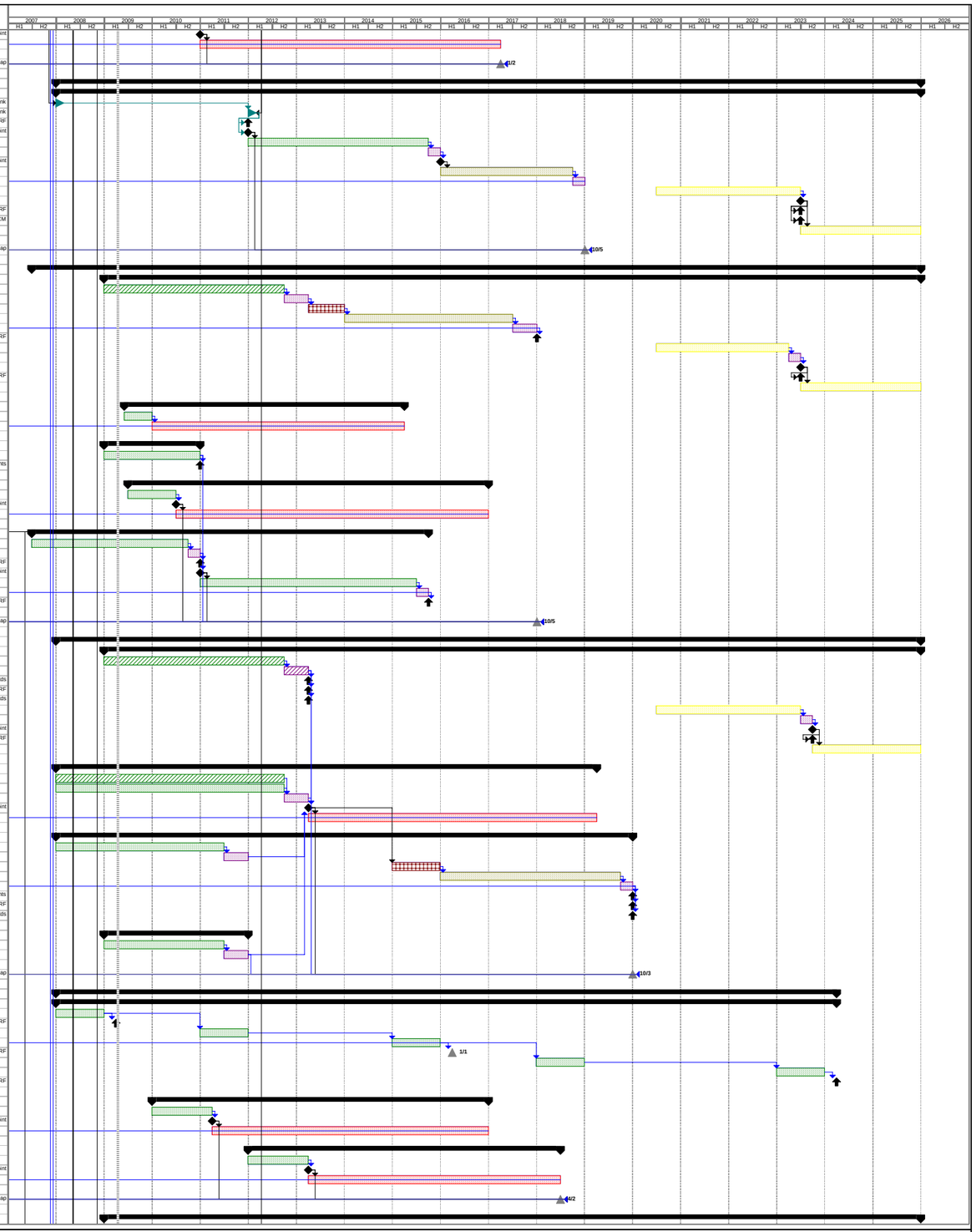
Project: IRPMonica4
Date: 1/9/09

Task | Progress | Summary | External Tasks | Deadline | Task | Task | Task | Task | Task | External Milestone | External Milestone
Split | Milestone | Project Summary | External Milestone | Task | Task | Task | Task | Task | External Milestone

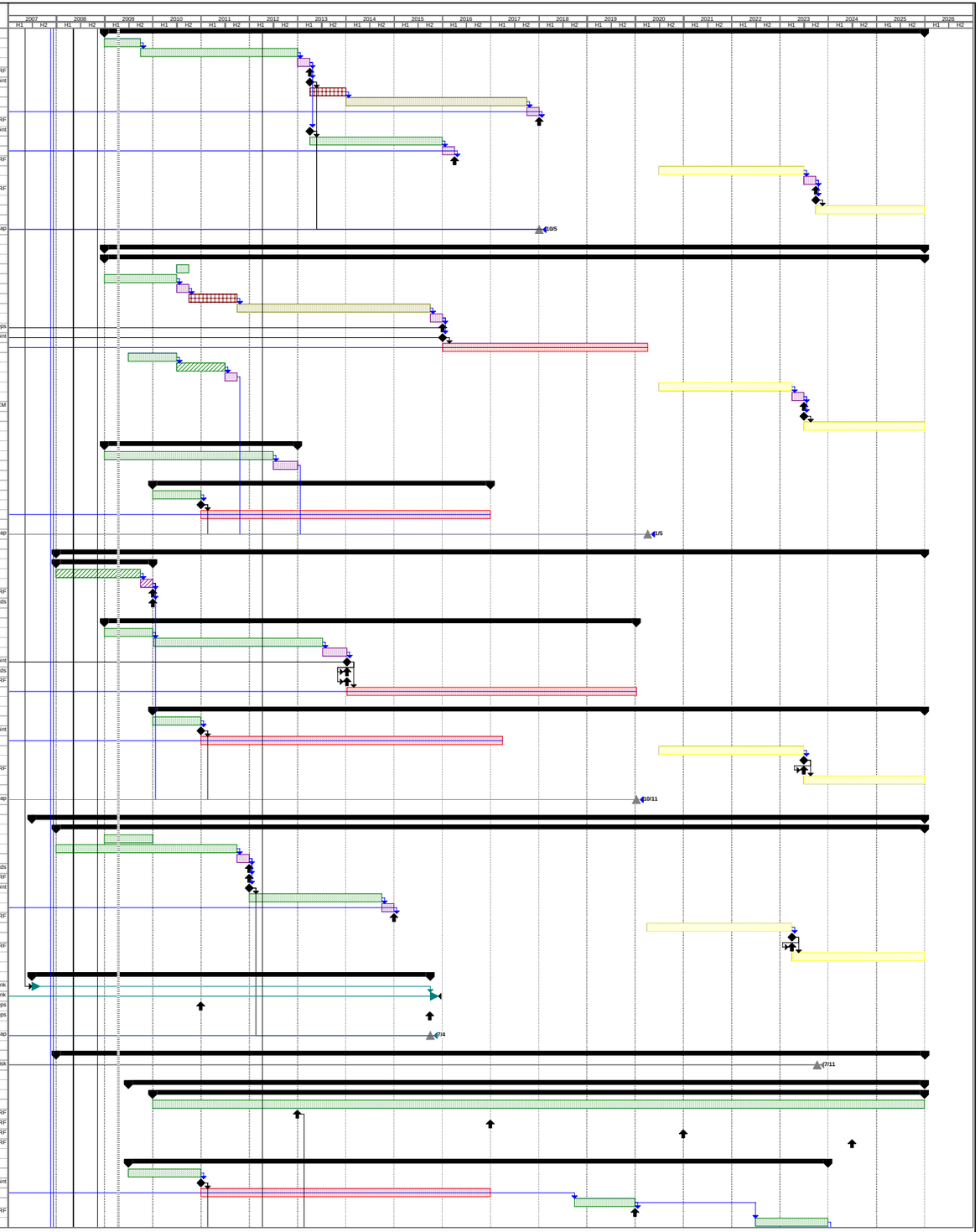
ID	Total Subjects Required	Propensity to Vounteer (1-5)	Volunteers/ Increment	Total Increments Required	Upmass/ Increment Subject	Downmass/ Increment Subject	Crew Time/ Increment Subject	BDC Time/ Increment	Jpmass /scremer	Downmass Increment (calc)	Crew Time/ Increment (calc)	Resources Exist?	IRP Duration	Duration ISS-Subjects Required	Resource Names	Task Name	Duration	Start	Finish	Predecessors	Milestone	Milestone Type
489	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 5: BMed7 What are the optimal countermeasures for maintenance, restoration and enhanc**	**4570 days?**	**10/1/07**	**4/4/20**		**No**	
490	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Tool: Mitigation of Depression**	**4570 days?**	**10/1/07**	**4/4/20**		**No**	
491	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Depression Tool: Refine,Validate in Analogs	549 days?	10/1/07	4/1/09		No	
492	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Depression Tool: Refine,Validate in Analogs Analysis	184 days?	4/2/09	10/2/09	491	No	
493	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Depression Tool:	459 days?	7/1/11	10/1/12	492	No	
494	20	5	3	6.67	0	0	20	0	0	0	60	1	0 days	1200 days		Depression Tool: ISS validation/feasibility	1279 days?	10/3/12	4/3/16	493,503	No	
495	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Depression Tool: ISS validation/feasibility Analysis	184 days?	4/4/16	10/4/16	494	No	
496	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Depression Tool: Operationalize Protocol for ISS	0 days	10/4/16	10/4/16	495	Yes	Information to other HSRF
497	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Depression Tool: Technology to detect and treat depression	0 days	10/4/16	10/4/16	495	Yes	CM
498	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Depression Tool: Are additional countermeasure studies needed?	0 days	10/4/16	10/4/16	495	Yes	
499	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Depression Tool: Ground-based CM	1278 days?	10/5/16	4/4/20	498	No	
500																						
501	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Tool: Mitigation of Stress and Anxiety**	**1463 days?**	**10/1/08**	**10/2/12**		**No**	
502	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Stress and Anxiety Tool:	1279 days?	10/1/08	4/1/12		No	
503	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Stress and Anxiety Tool Analysis	184 days?	4/2/12	10/2/12	502	No	
504																						
505	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Journals**	**3655 days?**	**10/1/07**	**10/2/17**		**No**	
506	10	5	3	3.33	0	0	10	0	0	0	30	1	0 days	600 days		Journals: ISS Studies	914 days?	10/1/07	4/1/10		No	
507	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Journals: ISS Studies Analysis	184 days?	4/2/10	10/2/10	506	No	
508	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Journals: Recommendations re: countermeasures for behavioral health	0 days	10/2/10	10/2/10	507	Yes	Information to other HSRF
509	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Journals: Are additional studies needed?	0 days	10/2/10	10/2/10	507	Yes	Decision Point
510	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Journals: Gaps and Activities to be subsequently revised/defined	2557 days?	10/3/10	10/2/17	509	No	
511																						
512	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Architectural recommendations for behavioral health and performance**	**2833 days?**	**7/1/09**	**4/2/17**		**No**	
513	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Architectural recs: Review	458 days?	7/1/09	10/1/10		No	
514	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Architectural recs: Are additional studies needed?	0 days	10/1/10	10/1/10	513	Yes	Decision Point
515	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Architectural recs: Gaps and Activities to be subsequently revised/defined	2375 days?	10/2/10	4/2/17	514	No	
516																						
517	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**CM: behavioral health/adaptation to ICE env.**	**2833 days?**	**7/1/09**	**4/2/17**		**No**	
518	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Adaptation to ICE: Review	458 days?	7/1/09	10/1/10		No	
519	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Adaptation to ICE: Are additional studies needed?	0 days	10/1/10	10/1/10	518	Yes	Decision Point
520	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Adaptation to ICE: Gaps and Activities to be subsequently revised/defined	2375 days?	10/2/10	4/2/17	519	No	
521																						
522	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Behavioral Gap 5	0 days	4/4/20	4/4/20	499FF,515FF,5.	Yes	Done with Gap
523																						
524	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 6: BMed8 What are the most appropriate and effective ways for crews to use behavioral h**	**2558 days?**	**10/1/17**	**10/1/24**		**No**	
525	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Develop Behavioral Medications Database**	**2558 days?**	**10/1/17**	**10/1/24**		**No**	
526	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Behavioral Meds Db: Review of Meds (Best Practices)	1097 days?	10/1/17	10/1/20		No	
527	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Behavioral Meds Db: Behavioral Medications Database 1	0 days	10/1/20	10/1/20	526	Yes	Information to other HSRF
528	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Behavioral Meds Db: Updates	367 days?	10/1/23	10/1/24		No	
529	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Behavioral Meds Db: Behavioral Medications Database 2	0 days	10/1/24	10/1/24	528	Yes	Information to other HSRF
530																						
531	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Behavioral Gap 6	0 days	10/1/24	10/1/24	529FF	Yes	Done with Gap
532																						
533	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Risk of Performance Errors Due to Sleep Loss, Circadian Desynchronization, Fatigue, and Work O**	**6761 days?**	**4/1/07**	**10/3/25**		**No**	
534	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Pre-Lunar Sleep	0 days	4/6/21	4/6/21	582FF,614FF,6.	Yes	Done with Risk
535																						
536	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 1: Sleep1 What are the best tools to monitor and assess decrements due to fatigue, sleep**	**6578 days?**	**10/1/07**	**10/3/25**		**No**	
537	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Refine and Validate Psychomotor Vigilance Test (PVT) Self Test**	**1463 days?**	**10/1/07**	**10/2/11**		**No**	
538	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		PVT Self Test: Lab development	1189 days?	10/1/07	1/1/11		No	
539	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		PVT Self Test: Lab development Analysis	274 days?	1/2/11	10/2/11	538	No	
540	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		PVT Self Test: Russian Chamber Study	639 days?	10/1/08	7/1/10		No	
541	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		PVT Self Test: Russian Chamber Study Analysis	185 days?	7/2/10	1/2/11	540	No	
542	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		PVT Self Test: NEEMO	367 days?	10/1/07	10/1/08		No	
543																						
544	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**PVT Self-Test on ISS 1**	**6304 days?**	**7/1/08**	**10/3/25**		**No**	
545	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		ISS PVT: Flight Prep	275 days?	7/1/08	4/1/09		No	
546	24	5	3	8	0	0	10	0	0	0	30	1	0 days	1440 days		ISS PVT: Validate PVT – Self Test	1462 days?	4/2/09	4/2/13	545,547SS	No	
547	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		ISS PVT: Initial Upmass to ISS	1 day?	4/1/09	4/1/09		No	
548	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		ISS PVT: Validate PVT – Self Test Analysis	183 days?	4/3/13	10/2/13	546	No	
549	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		ISS PVT: Information to SHFH	0 days	10/2/13	10/2/13	548	Yes	Information to other Elements
550	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		ISS PVT: PVT tool as med requirement to assess cognitive performance prior to critical tasl	0 days	10/2/13	10/2/13	548	Yes	Information to other HSRF
551	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		ISS PVT: Are additional or improved technology monitoring/assessment tools needed?	0 days	10/3/13	10/3/13	548	Yes	Decision Point
552	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		ISS PVT: Ground-based Studies	1372 days?	10/3/13	7/5/17	551	No	
553	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		ISS PVT: Ground-based Studies Analysis	91 days?	7/6/17	10/4/17	552	No	
554	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		ISS PVT: Select best measures	0 days	10/4/17	10/4/17	553	Yes	
555	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		ISS PVT: Prep for Flight Validation	276 days?	10/5/17	7/7/18	554	No	
556	24	5	3	8	0	0	10	0	0	0	30	1	0 days	1440 days		ISS PVT: Flight Validation Studies	912 days?	7/8/18	1/4/21	557SS,555	No	
557	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		ISS PVT: Flight Validation Studies Initial Upmass to ISS	1 day?	7/8/18	7/8/18		No	
558	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		ISS PVT: Flight Validation Studies Analysis	92 days?	1/5/21	4/6/21	556	No	
559	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		ISS PVT: Lunar Study	1096 days?	4/1/20	4/1/23		No	
560	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		ISS PVT: Lunar Study Analysis	92 days?	4/2/23	7/2/23	559	No	
561	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		ISS PVT: Are measures adequate?	0 days	7/2/23	7/2/23	560	Yes	Decision Point
562	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		ISS PVT: Measures validated in lunar sortie environment	0 days	7/2/23	7/2/23	561	Yes	Information to other HSRF
563	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		ISS PVT: Update HRSF/Med Ops re: Cognitive/motor performance in lunar sortie environm	0 days	7/2/23	7/2/23	561	Yes	Information to other HSRF
564	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		ISS PVT: Lunar CM Studies	824 days?	7/3/23	10/3/25	560	No	
565																						
566	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Sleep-Wake Actigraphy Study**	**1462 days?**	**10/1/07**	**10/1/11**		**No**	
567	24	5	3	8	6	0	10	0	18	0	30	1	0 days	1440 days		Sleep-Wake Actigraphy: Validate Actiwatch	1279 days?	10/1/07	4/1/11	568SS	No	
568	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Sleep-Wake Actigraphy: Validate Actiwatch Initial Upmass to ISS	1 day?	10/1/07	10/1/07		No	
569	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep-Wake Actigraphy: Operationalize Actiwatch protocol as med requirement to monitor s	0 days	7/1/09	7/1/09		Yes	Information to other HSRF
570	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep-Wake Actigraphy: Validate Actiwatch Analysis	183 days?	4/2/11	10/1/11	567	No	
571	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep-Wake Actigraphy: Update HSRF/Med Ops with recommendations based on evidence	0 days	10/1/11	10/1/11	570	Yes	Information to other HSRF
572																						
573	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Individualized Fatigue Meter**	**2926 days?**	**1/1/09**	**1/4/17**		**No**	
574	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Fatigue Meter: Eval Req Def	366 days?	1/1/09	1/1/10		No	
575	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Fatigue Meter: Prototype Dev	730 days?	1/2/10	1/1/12	574	No	
576	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Fatigue Meter: Flight Prep	367 days?	1/2/12	1/2/13	575	No	
577	24	5	3	8	6	0	10	0	18	0	30	1	0 days	1440 days		Fatigue Meter: Validate Fatigue Meter	1370 days?	1/3/13	10/3/16	576,578SS	No	
578	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Fatigue Meter: Validate Fatigue Meter Initial Upmass to ISS	1 day	1/1/13	1/1/13		No	
579	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Fatigue Meter: Validate Fatigue Meter Analysis	93 days?	10/4/16	1/4/17	577	No	
580	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Fatigue Meter: Individualized Fatigue Meter/Enhanced Actiwatch to become med/requireme	0 days	1/4/17	1/4/17	579	Yes	Information to other HSRF
581																						
582	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Sleep Gap 1	0 days	4/6/21	4/6/21	558FF,537FF,5	Yes	Done with Gap
583																						
584	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 2: Sleep2 How is performance in space flight affected by sleep loss, circadian desynchro**	**5754 days?**	**10/1/07**	**7/2/23**		**No**	
585	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Performance Data**	**1463 days**	**10/1/07**	**10/2/11**		**No**	
586	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to PVT Self Test: Lab development (Start)	0 days	10/1/07	10/1/07	538SS	Yes	
587	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to PVT Self Test: Lab development (Finish)	0 days	10/2/11	10/2/11	539FF,586	Yes	
588	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to PVT Self Test: Russian Chamber Study (Start)	0 days	10/1/08	10/1/08	540SS	Yes	
589	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to PVT Self Test: Russian Chamber Study (Finish)	0 days	1/2/11	1/2/11	541FF,588	Yes	
590	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to PVT Self Test: NEEMO (Start)	0 days	10/1/07	10/1/07	542SS	Yes	
591	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to PVT Self Test: NEEMO (Finish)	0 days	10/1/08	10/1/08	542FF,590	Yes	
592																						
593	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**PVT Self-Test on ISS 2**	**5480 days**	**7/1/08**	**7/2/23**		**No**	
594	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to PVT Self-Test on ISS (Start)	0 days	7/1/08	7/1/08	545SS	Yes	
595	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to PVT Self-Test on ISS (Finish)	0 days	10/2/13	10/2/13	548FF,594	Yes	
596	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		PVT Self-Test on ISS: Recommendations for flight and ground crews re: fatigue and perfor	0 days	10/2/13	10/2/13	595	Yes	Information for Health Stds
597	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		PVT Self-Test on ISS: Are additional performance studies required?	0 days	10/2/13	10/2/13	596	Yes	Decision Point
598	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to ISS PVT: Update HRSF/Med Ops re: Cognitive/motor performance in lunar sortie en	0 days	7/2/23	7/2/23	563	Yes	Link
599																						
600	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Motor Performance/ Dual Task Tests**	**2193 days?**	**10/1/08**	**10/2/14**		**No**	
601	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Motor Performance/ Dual Task Tests: Review of Measures	366 days?	10/1/08	10/1/09		No	
602	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Motor Performance/ Dual Task Tests: Flight Prep	366 days?	10/2/09	10/2/10	601	No	
603	20	5	3	6.67	0	0	10	0	0	0	30	1	0 days	1200 days		Motor Performance/ Dual Task Tests: Motor / Dual Task	1368 days?	10/3/10	7/1/14	602	No	
604	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Motor Performance/ Dual Task Tests: Analysis	93 days?	7/2/14	10/2/14	603	No	
605	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Motor Performance/ Dual Task Tests: Information to other Elements	0 days	10/2/14	10/2/14	604	Yes	Information to other Elements
606	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Motor Performance/ Dual Task Tests: Recommendations for flight and ground crews re: fati	0 days	10/2/14	10/2/14	604	Yes	Information for Health Stds
607	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Motor Performance/ Dual Task Tests: Information to other HSRF	0 days	10/2/14	10/2/14	604	Yes	Information to other HSRF
608																						
609	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Hypoxia / Altitude / CO2:**	**2651 days?**	**10/1/09**	**1/2/17**		**No**	
610	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Hypoxia / Altitude / CO2: Review	366 days?	10/1/09	10/1/10		No	



ID	Total Subjects Required	Propensity to Vounteer (1-5)	Volunteers/ Increment	Total Increments Required	Upmass/ Increment Subject	Downmass/ Increment Subject	Crew Time/ Increment Subject	BDC Time/ Increment	Upmass Icremer	Downmass Increment (calc)	Crew Time/ Increment (calc)	Resources Exist?	IRP Duration	Duration ISS-Subjects Required	Resource Names	Task Name	Duration	Start	Finish	Predecessors	Milestone	Milestone Type
611	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Hypoxia / Altitude / CO2: Is study needed?	0 days	10/1/10	10/1/10	610	Yes	Decision Point
612	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Hypoxia / Altitude / CO2: Gaps and Activities to be subsequently revised/defined	2285 days?	10/2/10	1/2/17	611	No	
613																						
614	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Sleep Gap 2	0 days	1/2/17	1/2/17	597FF,604FF,6	Yes	Done with Gap
615																						
616	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 3: Sleep3 Does sleep loss continue on long duration missions or is there adaptation?**	**6577 days?**	**10/1/07**	**10/2/25**		**No**	
617	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Sleep / Wake Activity Study**	**6577 days?**	**10/1/07**	**10/2/25**		**No**	
618	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Sleep-Wake Actigraphy Study(Start)	0 days	10/1/07	10/1/07	566SS	Yes	Link
619	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Sleep-Wake Actigraphy Study (Finish)	0 days	10/1/11	10/1/11	566FF,618	Yes	Link
620	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep / Wake Activity Study: Recommendations based on objective assessment of Sleep or	0 days	10/1/11	10/1/11	619	Yes	Information to other HSRF
621	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep / Wake Activity Study: Are countermeasures needed to address continued sleep loss	0 days	10/1/11	10/1/11	619	Yes	Decision Point
622	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep / Wake Activity Study: Ground-based Studies	1370 days?	10/2/11	7/2/15	621	No	
623	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep / Wake Activity Study: Ground-based Studies Analysis	93 days?	7/3/15	10/3/15	622	No	
624	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep / Wake Activity Study: Select best countermeasures	0 days	10/3/15	10/3/15	623	Yes	Decision Point
625	24	5	3	8	0	0	10	0	0	0	30	1	0 days	1440 days		Sleep / Wake Activity Study: Flight Validation Studies	1005 days?	10/4/15	7/4/18	624	No	
626	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep / Wake Activity Study: Flight Validation Studies Analysis	93 days?	7/5/18	10/5/18	625	No	
627	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep / Wake Activity Study: Lunar Studies	1096 days?	4/1/20	4/1/23		No	
628	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep / Wake Activity Study: Are CMs adequate?	0 days	4/1/23	4/1/23	627	Yes	
629	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep / Wake Activity Study: Recommendations based on objective assessment of Sleep or	0 days	4/1/23	4/1/23	628	Yes	Information to other HSRF
630	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep / Wake Activity Study: CM to aid in adaptation validated in lunar environment	0 days	4/1/23	4/1/23	628	Yes	CM
631	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep / Wake Activity Study: Lunar CM Studies	915 days?	4/2/23	10/2/25	628	No	
632																						
633	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Sleep Gap 3	0 days	10/5/18	10/5/18	626FF,621FF	Yes	Done with Gap
634																						
635	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 4: Sleep4 How can individual astronauts' vulnerabilities to sleep loss and circadian rhyth**	**6761 days?**	**4/1/07**	**10/3/25**		**No**	
636	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Develop Modeling Software:**	**6212 days?**	**10/1/08**	**10/3/25**		**No**	
637	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Develop Modeling Software: Refine and validate models;incorporate additional factors	1370 days?	10/1/08	7/1/12		No	
638	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Develop Modeling Software: Analysis	185 days?	7/2/12	1/2/13	637	No	
639	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Develop Modeling Software: Flight Prep	274 days?	1/3/13	10/3/13	638	No	
640	20	5	3	6.67	0	0	5	0	0	0	15	1	0 days	1200 days		Develop Modeling Software: Validate integrated model	1279 days?	10/4/13	4/4/17	639	No	
641	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Develop Modeling Software: Flight Analysis	184 days?	4/5/17	10/5/17	640	No	
642	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Develop Modeling Software: Modeling software – individualized cm for ground and flight cre	0 days	10/5/17	10/5/17	641	Yes	Information to HSRF
643	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Develop Modeling Software: Lunar Validation Study	1006 days?	4/1/20	1/1/23		No	
644	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Develop Modeling Software: Lunar Validation Study Analysis	91 days?	1/2/23	4/2/23	643	No	
645	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Develop Modeling Software: Are models valid?	0 days	4/2/23	4/2/23	644	Yes	
646	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Develop Modeling Software: Information to HSRF	0 days	4/2/23	4/2/23	645	Yes	Information to HSRF
647	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Develop Modeling Software: Lunar Studies	915 days?	4/3/23	10/3/25	645	No	
648																						
649	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Integrate Models:**	**2130 days?**	**3/4/09**	**1/1/15**		**No**	
650	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Integrate Models: Workshop	212 days?	3/4/09	10/1/09		No	
651	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Integrate Models: Gaps and Tasks to be subsequently revised/defined	1918 days?	10/2/09	1/1/15	650	No	
652																						
653	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Develop Sleep Module of Integrated Medical Model:**	**731 days?**	**10/1/08**	**10/1/10**		**No**	
654	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep Module of IMM: Statistical & Clinical Validation	731 days?	10/1/08	10/1/10		No	
655	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep Module of IMM: Inform ExMC	0 days	10/1/10	10/1/10	654	Yes	Information to other Elements
656																						
657	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Review Biomarkers for individual vulnerabilities:**	**2742 days?**	**4/1/09**	**10/2/16**		**No**	
658	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Biomarkers: Lit. Review	366 days?	4/1/09	4/1/10		No	
659	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Biomarkers: Are studies needed?	0 days	4/1/10	4/1/10	658	Yes	Decision Point
660	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Biomarkers: Gaps and Tasks to be subsequently revised/defined	2376 days?	4/2/10	10/2/16	659	No	
661																						
662	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Evaluate individual risk Factors for circadian entrainment to Martian sol –ground crews:**	**3017 days?**	**4/1/07**	**7/4/15**		**No**	
663	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Circadian entrainment: Ground Studies: Crews Supporting Mars Robotic Missions 1	1188 days?	4/1/07	7/1/10		No	
664	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Circadian entrainment: Analysis 1	93 days?	7/2/10	10/2/10	663	No	
665	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Circadian entrainment: Recommendations to Mission Ops	0 days	10/2/10	10/2/10	664	Yes	Information to HSRF
666	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Circadian entrainment: Are additional studies needed?	0 days	10/2/10	10/2/10	664	Yes	Decision Point
667	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Circadian entrainment: Ground Studies: Crews Supporting Mars Robotic Missions 2	1644 days?	10/3/10	4/3/15	666	No	
668	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Circadian entrainment: Analysis 2	92 days?	4/4/15	7/4/15	667	No	
669	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Circadian entrainment: Recommendations Based on individual risk factors for ground and fl	0 days	7/4/15	7/4/15	668	Yes	Information to HSRF
670																						
671	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Sleep Gap 4	0 days	10/5/17	10/5/17	641FF,651FF,6	Yes	Done with Gap
672																						
673	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 5: Sleep5 How can light be used optimally to minimize circadian problems in space?**	**6576 days?**	**10/1/07**	**10/1/25**		**No**	
674	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Studies to determine efficacy of shorter-wavelength-enriched for phase shifting**	**6210 days?**	**10/1/08**	**10/1/25**		**No**	
675	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		shorter-wavelength efficacy: Ground-based studies: Lab, RCS	1370 days?	10/1/08	7/1/12		No	
676	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		shorter-wavelength efficacy: Analysis	185 days?	7/2/12	1/2/13	675	No	
677	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		shorter-wavelength efficacy: Requirements for Lander Lighting Spectrum	0 days	1/2/13	1/2/13	676	Yes	Recommend Update to Health Stds
678	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		shorter-wavelength efficacy: Information to HSRF	0 days	1/2/13	1/2/13	676	Yes	Information to HSRF
679	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		shorter-wavelength efficacy: Requirements On Best Operational Approach for Utilizing Ligh	0 days	1/2/13	1/2/13	676	Yes	Information for Health Stds
680	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		shorter-wavelength efficacy: Lunar Validation Studies	1096 days?	4/1/20	4/1/23		No	
681	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		shorter-wavelength efficacy: Lunar Validation Studies Analysis	91 days?	4/2/23	7/1/23	680	No	
682	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		shorter-wavelength efficacy: Are light requirements adequate?	0 days	7/1/23	7/1/23	681	Yes	Decision Point
683	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		shorter-wavelength efficacy: Recommendations Validated in lunar environment	0 days	7/1/23	7/1/23	682	Yes	Information to HSRF
684	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		shorter-wavelength efficacy: Lunar CM Studies	823 days?	7/2/23	10/1/25	682	No	
685																						
686	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Studies to determine alerting, hormonal and circadian effects of artificial and ambient ligh**	**4113 days?**	**10/1/07**	**1/3/19**		**No**	
687	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		artificial and ambient light effects: ground-based studies	1736 days?	10/1/07	7/1/12		No	
688	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		artificial and ambient light effects: ground-based studies lab	1736 days?	10/1/07	7/1/12		No	
689	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		artificial and ambient light effects: analysis	185 days?	7/2/12	1/2/13	687,688	No	
690	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		artificial and ambient light effects: Are additional lighting studies needed?	0 days	1/2/13	1/2/13	676,689,695,70	Yes	Decision Point
691	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		artificial and ambient light effects: Gaps and Ground Activities to be subsequently revised/d	2192 days?	1/3/13	1/3/19	690	No	
692																						
693	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Characteristics of Light Exposure Necessary for Development of Optimal Countermeasun**	**4387 days?**	**10/1/07**	**10/4/19**		**No**	
694	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Characteristics of Light: ground-based studies	1279 days?	10/1/07	4/1/11		No	
695	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Characteristics of Light: analysis	184 days?	4/2/11	10/2/11	694	No	
696	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Characteristics of Light: Prep	366 days?	10/1/14	10/1/15	690	No	
697	20	5	3	6.67	0	0	5	0	0	0	15	1	0 days	1200 days		Characteristics of Light: ISS Validation	1370 days?	10/2/15	7/2/19	696	No	
698	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Characteristics of Light: ISS Validation Analysis	93 days?	7/3/19	10/3/19	697	No	
699	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Characteristics of Light: Requirements for Habitat Lighting Spectrum	1 day?	10/4/19	10/4/19	698	No	rements to Other Programs/Elements
700	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Characteristics of Light: Recommendations On Best Operational Approach for Utilizing Ligh	1 day?	10/4/19	10/4/19	698	No	Information to HSRF
701	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Characteristics of Light: Recommendations On Best Operational Approach for Utilizing Ligh	1 day?	10/4/19	10/4/19	698	No	Information for Health Stds
702																						
703	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Validation of ISS LED lighting**	**1097 days?**	**10/1/08**	**10/2/11**		**No**	
704	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Validation of ISS LED lighting: ground-based studies	913 days?	10/1/08	4/1/11		No	
705	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Validation of ISS LED lighting: analysis	184 days?	4/2/11	10/2/11	704	No	
706																						
707	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Sleep Gap 5	0 days	10/3/19	10/3/19	676FF,691FF,6	Yes	Done with Gap
708																						
709	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 6: Sleep6 What are the performance risk/benefits of specific sleep/wake medications in fli**	**5936 days?**	**10/1/07**	**1/1/24**		**No**	
710	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Develop Sleep Wake Medications Database**	**5936 days?**	**10/1/07**	**1/1/24**		**No**	
711	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep Wake Medications Db: Rev. of med	367 days?	10/1/07	10/1/08		No	
712	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep Wake Medications Db: Electronic Sleep Medication Database	0 days	1/1/09	1/1/09	711	Yes	Information to HSRF
713	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep Wake Medications Db: Updates 1	366 days?	10/1/10	10/1/11	711	No	
714	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep Wake Medications Db: Updates 2	366 days?	10/1/14	10/1/15	713	No	
715	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep Wake Medications Db: Electronic Sleep Medication Database Update 1	0 days	1/1/16	1/1/16	714	Yes	Information to HSRF
716	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep Wake Medications Db: Updates 3	366 days?	10/1/17	10/1/18	714	No	
717	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep Wake Medications Db: Updates 4	366 days?	10/1/22	10/1/23	716	No	
718	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep Wake Medications Db: Electronic Sleep Medication Database Update 2	0 days	1/1/24	1/1/24	717	Yes	Information to HSRF
719																						
720	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Sleep/Wake Medications – Assess Interactions**	**2559 days?**	**10/1/09**	**10/2/16**		**No**	
721	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep/Wake Interactions: Rev.	458 days?	10/1/09	1/1/11		No	
722	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep/Wake Interactions: Is study needed?	0 days	1/1/11	1/1/11	721	Yes	Decision Point
723	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep/Wake Interactions: Gaps and Activities to be subsequently revised/defined	2101 days?	1/2/11	10/2/16	722	No	
724																						
725	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Sleep/Wake Medications – Pharmacokinetics/Efficacy**	**2376 days?**	**10/1/11**	**4/2/18**		**No**	
726	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		S/W Meds – Pharmacokinetics/Efficacy: Review	459 days?	10/1/11	1/1/13		No	
727	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		S/W Meds – Pharmacokinetics/Efficacy: Is study needed?	0 days	1/1/13	1/1/13	726	Yes	Decision Point
728	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		S/W Meds – Pharmacokinetics/Efficacy: Gaps and Activities to be subsequently revised/def	1917 days?	1/2/13	4/2/18	727	No	
729																						
730	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Sleep Gap 6	0 days	4/2/18	4/2/18	714FF,723FF,7:	Yes	Done with Gap
731																						
732	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 7: Sleep7 What are the best individual dosing requirements/protocols for Sleep and alertn**	**6210 days?**	**10/1/08**	**10/1/25**		**No**	



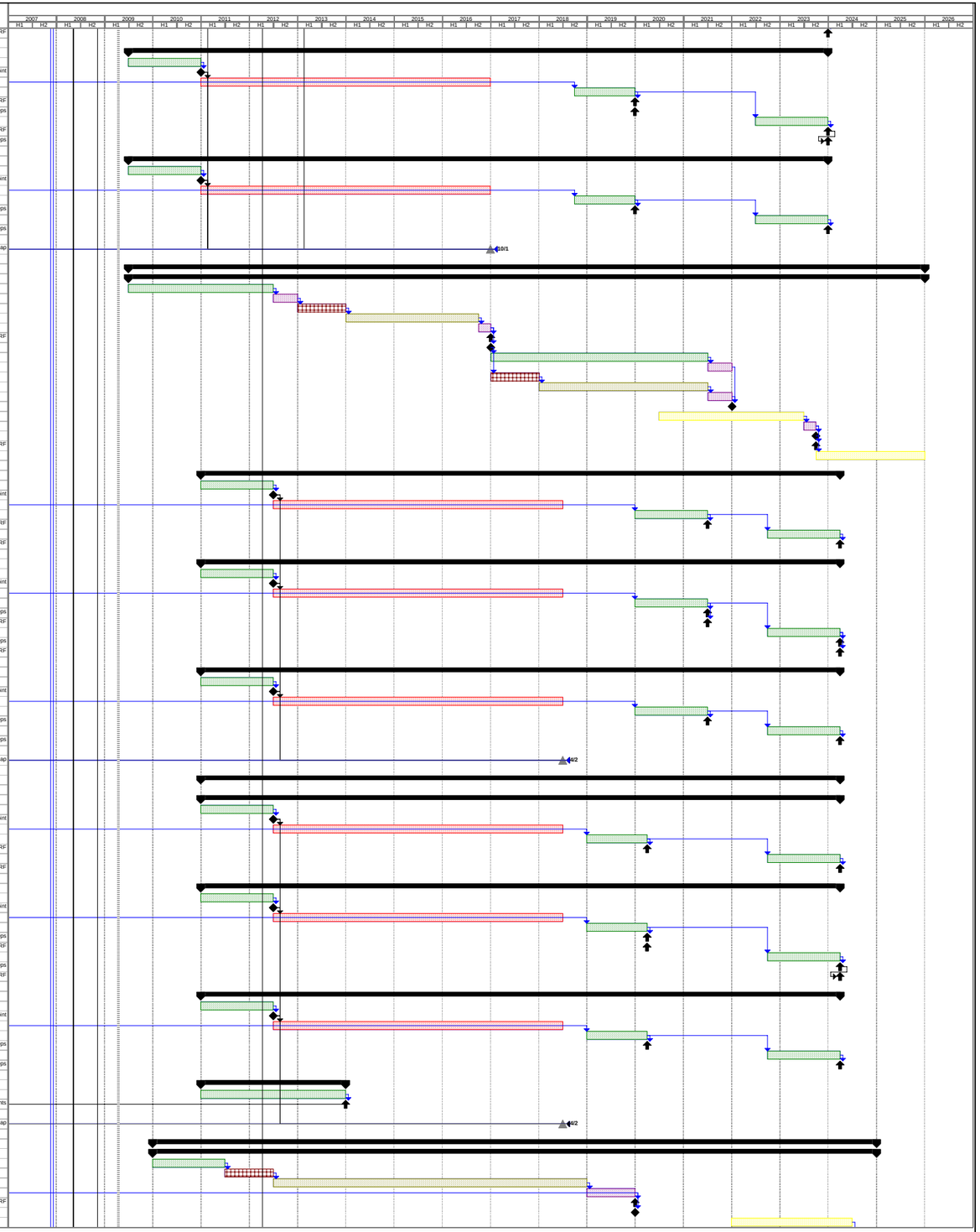
ID	Total Subjects Required	Propensity to Vounteer (1-5)	Volunteers/ Increment	Total Increments Required	Upmass/ Increment Subject	Downmass/ Increment Subject	Crew Time/ Increment Subject	BDC Time/ Increment	Upmass Icremer	Downmass Increment (calc)	Crew Time/ Increment (calc)	Resources Exist?	IRP Duration	Duration ISS-Subjects Required	Resource Names	Task Name	Duration	Start	Finish	Predecessors	Milestone	Milestone Type
733	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Individualized Protocols Sleep / Wake Medications**	**6210 days?**	**10/1/08**	**10/1/25**		**No**	
734	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Individualized Sleep/Wake Meds: Pilot	274 days?	10/1/08	7/1/09		No	
735	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Individualized Sleep/Wake Meds: Ground Studies: Effects of Sleep Medications; Pharmaco	1189 days?	7/2/09	10/2/12	734	No	
736	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Individualized Sleep/Wake Meds: Analysis 1	93 days?	10/3/12	1/3/13	735	No	
737	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Individualized Sleep/Wake Meds: Recommendations for Best Operational Approach for Uti	0 days	1/3/13	1/3/13	736	Yes	Information to HSRF
738	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Individualized Sleep/Wake Meds: Are spaceflight studies needed?	0 days	1/3/13	1/3/13	736	Yes	Decision Point
739	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Individualized Sleep/Wake Meds: Prep	273 days?	1/4/13	10/3/13	738	No	
740	20	5	3	6.67	0	0	5	0	0	0	15	1	0 days	1200 days		Individualized Sleep/Wake Meds: Data collection --validate protocols	1370 days?	10/4/13	7/4/17	739	No	
741	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Individualized Sleep/Wake Meds: Analysis 2	93 days?	7/5/17	10/5/17	740	No	
742	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Individualized Sleep/Wake Meds: Recommendations for Best Operational Approach for Uti	0 days	10/5/17	10/5/17	741	Yes	Information to HSRF
743	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Individualized Sleep/Wake Meds: Are additional ground studies needed?	0 days	1/3/13	1/3/13	736	Yes	Decision Point
744	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Individualized Sleep/Wake Meds: Ground Studies: Effects of Sleep/Wake Medications	1003 days?	1/4/13	10/3/15	743	No	
745	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Individualized Sleep/Wake Meds: Analysis 3	93 days?	10/4/15	1/4/16	744	No	
746	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Individualized Sleep/Wake Meds: Update on Recommendations for Best Operational Appro	0 days	1/4/16	1/4/16	745	Yes	Information to HSRF
747	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Individualized Sleep/Wake Meds: Lunar Study	1096 days?	4/1/20	4/1/23		No	
748	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Individualized Sleep/Wake Meds: Lunar Study analysis	91 days?	4/2/23	7/1/23	747	No	
749	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Individualized Sleep/Wake Meds: Recommendations regarding effects of medication in Lun	0 days	7/1/23	7/1/23	748	Yes	Information to HSRF
750	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Individualized Sleep/Wake Meds: Are additional studies needed for long duration Lunar?	0 days	7/1/23	7/1/23	748	Yes	
751	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Individualized Sleep/Wake Meds: Lunar Studies	823 days?	7/2/23	10/1/25	750	No	
752																						
753	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Sleep Gap 7	0 days	10/5/17	10/5/17	741FF,745FF,7:	Yes	Done with Gap
754																						
755	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 8: Sleep8 How can physical and cognitive workloads be optimally managed in space relat**	**6211 days?**	**10/1/08**	**10/2/25**		**No**	
756	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Impact of increased work autonomy on performance 1**	**6211 days?**	**10/1/08**	**10/2/25**		**No**	
757	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		autonomy: workshop	92 days?	4/1/10	7/1/10		No	
758	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		autonomy: Analogs: NEEMO	548 days?	10/1/08	4/1/10		No	
759	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		autonomy: Analogs: NEEMO Analysis	92 days?	4/2/10	7/2/10	758	No	
760	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		autonomy: Prep	366 days?	7/3/10	7/3/11	759	No	
761	18	5	3	6	0	0	5	0	0	0	15	1	0 days	1080 days		autonomy: ISS Data Collection	1462 days?	7/4/11	7/4/15	760	No	
762	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		autonomy: ISS Data Collection analysis	93 days?	7/5/15	10/5/15	761	No	
763	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		autonomy: Recommendations Optimal Work / Rest Schedules	0 days	10/5/15	10/5/15	762	Yes	Informing Mission Ops
764	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		autonomy: Are additional studies needed?	0 days	10/5/15	10/5/15	762	Yes	Decision Point
765	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		autonomy: Gaps and Activities to be subsequently revised/defined	1553 days?	10/6/15	1/5/20	764	No	
766	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		autonomy: RCS 1	366 days?	4/1/09	4/1/10		No	
767	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		autonomy: RCS 2	366 days?	4/2/10	4/2/11	766	No	
768	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		autonomy: RCS analysis	92 days?	4/3/11	7/3/11	767	No	
769	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		autonomy: Lunar Study	1006 days?	4/1/20	1/1/23		No	
770	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		autonomy: Lunar Study analysis	91 days?	1/2/23	4/2/23	769	No	
771	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		autonomy: Recommendations to aid schedules/performance validated in lunar environment	0 days	4/2/23	4/2/23	770	Yes	CM
772	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		autonomy: Are work/rest/recovery schedules adequate in Lunar environment?	0 days	4/2/23	4/2/23	770	Yes	
773	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		autonomy: Lunar CM Studies	914 days?	4/3/23	10/2/25	772	No	
774																						
775	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**SPiFe 1**	**1463 days?**	**10/1/08**	**10/2/12**		**No**	
776	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		SPiFe: Analogs: NEEMO, HMP	1279 days?	10/1/08	4/1/12		No	
777	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		SPiFe: analysis	184 days?	4/2/12	10/2/12	776	No	
778																						
779	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Impact of sleep loss, fatigue, workload on: learning, and memory; also on psychosocial a**	**2558 days?**	**10/1/09**	**10/1/16**		**No**	
780	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Impact of sleep loss: Review	366 days?	10/1/09	10/1/10		No	
781	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Impact of sleep loss: Are studies needed? Are these gaps?	0 days	10/1/10	10/1/10	780	Yes	
782	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Impact of sleep loss: Gaps and Activities to be subsequently revised/defined	2192 days?	10/2/10	10/1/16	781	No	
783																						
784	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Sleep Gap 8	0 days	1/5/20	1/5/20	763FF,765FF,7(	Yes	Done with Gap
785																						
786	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 9: Sleep9 What are the countermeasures needed to recover from chronic partial sleep los**	**6577 days?**	**10/1/07**	**10/2/25**		**No**	
787	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Sleep Dose Recovery**	**733 days?**	**10/1/07**	**10/2/09**		**No**	
788	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep Dose Recovery: Lab studies	640 days?	10/1/07	7/1/09		No	
789	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep Dose Recovery: analysis	93 days?	7/2/09	10/2/09	788	No	
790	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep Dose Recovery: Recommendations for Flight Med Ops related to recovery sleep 1	0 days	10/2/09	10/2/09	789	Yes	Information to HSRF
791	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep Dose Recovery: Recommendations for Flight Med Ops related to recovery sleep 2	0 days	10/2/09	10/2/09	789	Yes	Information for Health Stds
792																						
793	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Jet-Lag / Crew Training/ MOD Shifting Countermeasures Study**	**4028 days?**	**10/1/08**	**10/11/19**		**No**	
794	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Shifting CM Study: Pilot	366 days?	10/1/08	10/1/09		No	
795	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Shifting CM Study: Ground Studies CM for shifting, crew training	1279 days?	10/10/09	4/10/13	794	No	
796	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Shifting CM Study: analysis	184 days?	4/11/13	10/11/13	795	No	
797	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Shifting CM Study: Are additional studies needed?	0 days	10/11/13	10/11/13	796	Yes	Decision Point
798	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Shifting CM Study: Recommendations for Flight Med Ops related to jet lag, training, MOD,	0 days	10/11/13	10/11/13	797	Yes	Information for Health Stds
799	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Shifting CM Study: Recommendations for Flight Med Ops related to jet lag, training, MOD,	0 days	10/11/13	10/11/13	797	Yes	Information to HSRF
800	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Shifting CM Study: Gaps and Activities to be subsequently revised/defined	2191 days?	10/12/13	10/11/19	797	No	
801																						
802	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Optimal countermeasures for Lunar:**	**5846 days?**	**10/1/09**	**10/2/25**		**No**	
803	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Optimal countermeasures for Lunar: Review	366 days?	10/1/09	10/1/10		No	
804	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Optimal countermeasures for Lunar: Are additional studies needed?	0 days	10/1/10	10/1/10	803	Yes	Decision Point
805	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Optimal countermeasures for Lunar: Gaps and Activities to be subsequently revised/defined	2284 days?	10/2/10	1/1/17	804	No	
806	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Optimal countermeasures for Lunar: Lunar Validation Studies	1096 days?	4/1/20	4/1/23		No	
807	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Optimal countermeasures for Lunar: Are countermeasures adequate for lunar surface?	0 days	4/1/23	4/1/23	806	Yes	
808	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Optimal countermeasures for Lunar: Recommendations for Flight Med Ops related to slam	0 days	4/1/23	4/1/23	807	Yes	Information to HSRF
809	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Optimal countermeasures for Lunar: Lunar CM Studies	915 days?	4/2/23	10/2/25	807	No	
810																						
811	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Sleep Gap 9	0 days	10/11/19	10/11/19	789FF,800FF,8(	Yes	Done with Gap
812																						
813	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 10: Sleep10 What flight rules and requirements improve sleep, circadian desynchronizatio**	**6760 days?**	**4/1/07**	**10/2/25**		**No**	
814	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Sleep Quality and Strategies Questionnaire**	**6577 days?**	**10/1/07**	**10/2/25**		**No**	
815	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep Quality/Strategies Questionnaire: Review	366 days?	10/1/08	10/1/09		No	
816	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep Quality/Strategies Questionnaire: Ground Studies 1	1370 days?	10/1/07	7/1/11		No	
817	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep Quality/Strategies Questionnaire: Analysis 1	93 days?	7/2/11	10/2/11	816	No	
818	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep Quality/Strategies Questionnaire: Recommendations to aid rules and requirements al	0 days	10/2/11	10/2/11	817	Yes	Information for Health Stds
819	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep Quality/Strategies Questionnaire: Recommendations to aid rules and requirements al	0 days	10/2/11	10/2/11	817	Yes	Information to HSRF
820	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep Quality/Strategies Questionnaire: Are additional studies needed?	0 days	10/2/11	10/2/11	817	Yes	Decision Point
821	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep Quality/Strategies Questionnaire: Ground Studies 2	1004 days?	10/3/11	7/2/14	820	No	
822	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep Quality/Strategies Questionnaire: Analysis 2	92 days?	7/3/14	10/2/14	821	No	
823	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep Quality/Strategies Questionnaire: Recommendations to aid rules and requirements al	0 days	10/2/14	10/2/14	822	Yes	Information to HSRF
824	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep Quality/Strategies Questionnaire: Lunar Validation Studies	1097 days?	1/1/20	1/1/23		No	
825	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep Quality/Strategies Questionnaire: Are recommendations effective?	0 days	1/1/23	1/1/23	824	Yes	
826	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep Quality/Strategies Questionnaire: Recommendations to aid rules and requirements vi	0 days	1/1/23	1/1/23	825	Yes	Information to HSRF
827	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep Quality/Strategies Questionnaire: Lunar CM Studies	1005 days?	1/2/23	10/2/25	825	No	
828																						
829	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Sleep Performance Countermeasures for Martian Sol- Flight and Ground Crews**	**3017 days?**	**4/1/07**	**7/4/15**		**No**	
830	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Evaluate individual risk Factors for circadian entrainment to Martian sol --ground cre	0 days	4/1/07	4/1/07	662SS	Yes	Link
831	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Evaluate individual risk Factors for circadian entrainment to Martian sol --ground cre	0 days	7/4/15	7/4/15	662FF,830	Yes	Link
832	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep Performance Countermeasures: Recommendations to Mission Ops	0 days	10/1/10	10/1/10		Yes	Informing Mission Ops
833	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sleep Performance Countermeasures:Recommendations to aid flight rules and requiremer	0 days	7/1/15	7/1/15		Yes	Informing Mission Ops
834																						
835	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Sleep Gap 10	0 days	7/4/15	7/4/15	831FF,822FF,8:	Yes	Done with Gap
836																						
837	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Risk of Performance Errors Due to Poor Team Cohesion and Performance, Inadequate Selection/Tr**	**6579 days?**	**10/1/07**	**10/4/25**		**No**	
838	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Pre-Lunar Team	0 days	7/11/23	7/11/23	877FF,929FF,9(	Yes	Done with Risk
839																						
840	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 1: Team1 What are the most likely and most serious threats to crew cohesion, crew perfo**	**6028 days?**	**4/1/09**	**10/1/25**		**No**	
841	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Crew History**	**5845 days?**	**10/1/09**	**10/1/25**		**No**	
842	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Crew History: Evidence Gathering; Systematic Data Collection with Returning Crews	5845 days?	10/1/09	10/1/25		No	
843	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Crew History: Recommendations based on crew experience	0 days	10/1/12	10/1/12		Yes	Information to HSRF
844	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Crew History: Updated recommendations 1	0 days	10/1/16	10/1/16		Yes	Information to HSRF
845	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Crew History: Updated recommendations 2	0 days	10/1/20	10/1/20		Yes	Information to HSRF
846	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Crew History: Updated recommendations 3	0 days	4/1/24	4/1/24		Yes	Information to HSRF
847																						
848	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Risk Assessment-crew cohesion**	**5297 days?**	**4/1/09**	**10/1/23**		**No**	
849	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		RA-crew cohesion: Rev.Lit. / Ops Intvw	549 days?	4/1/09	10/1/10		No	
850	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		RA-crew cohesion: Are studies needed?	0 days	10/1/10	10/1/10	849	Yes	Decision Point
851	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		RA-crew cohesion: Gaps and Activities to be subsequently revised/defined	2192 days?	10/2/10	10/1/16	850	No	
852	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		RA-crew cohesion: Lunar Long Update	458 days?	7/1/18	10/1/19	851	No	
853	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		RA-crew cohesion: Risk Cohesion Updates 1	0 days	10/1/19	10/1/19	852	Yes	Information to HSRF
854	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		RA-crew cohesion: Mars Update	549 days?	4/1/22	10/1/23	852	No	



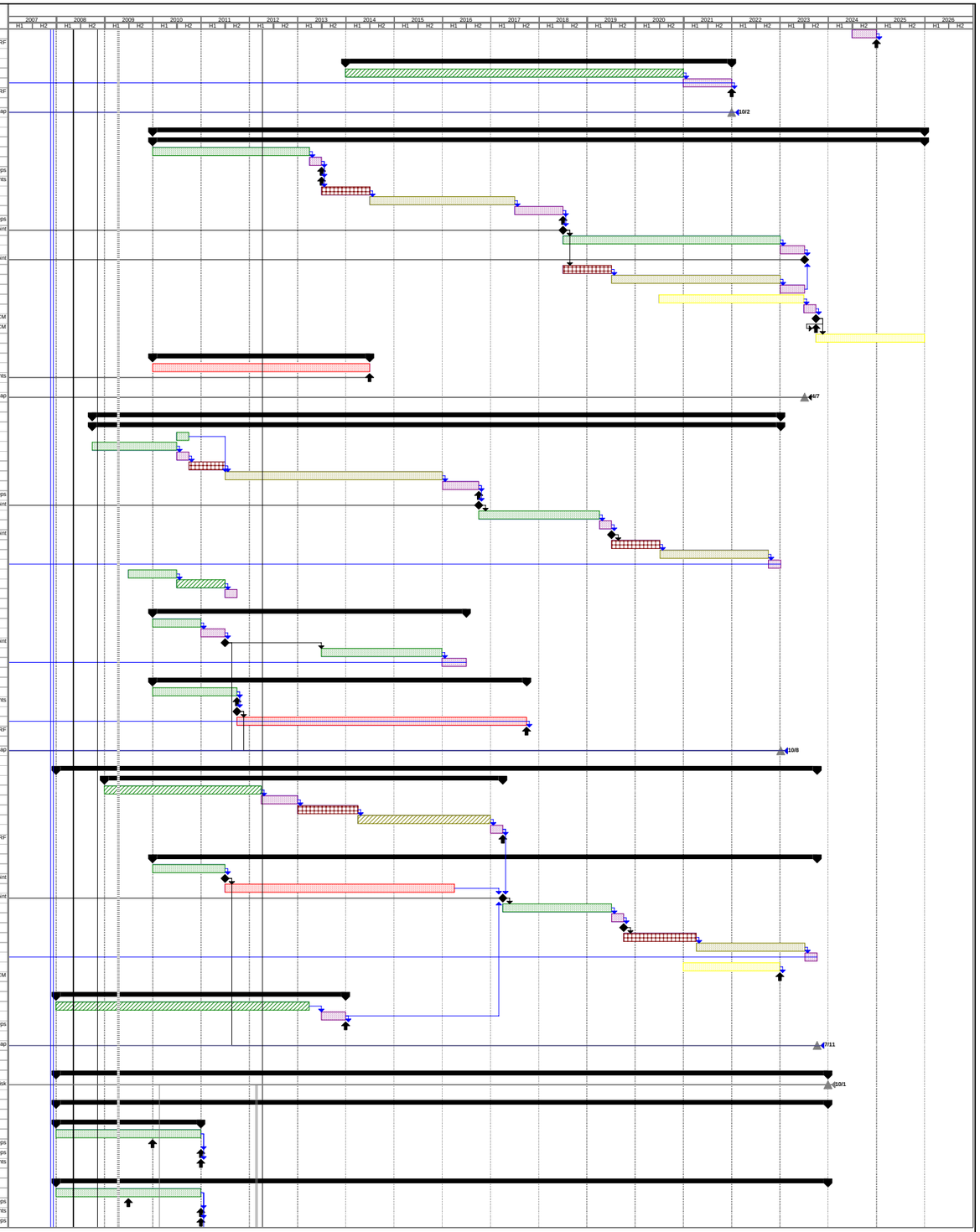
Project: IRPMonica4
Date: 1/9/09

Task | Progress | Summary | External Tasks | Deadline | Task | Task | Task | Task | External Milestone | External Milestone
Split | Milestone | Project Summary | External Milestone | Task | Task | Task | Task | Task | External Milestone

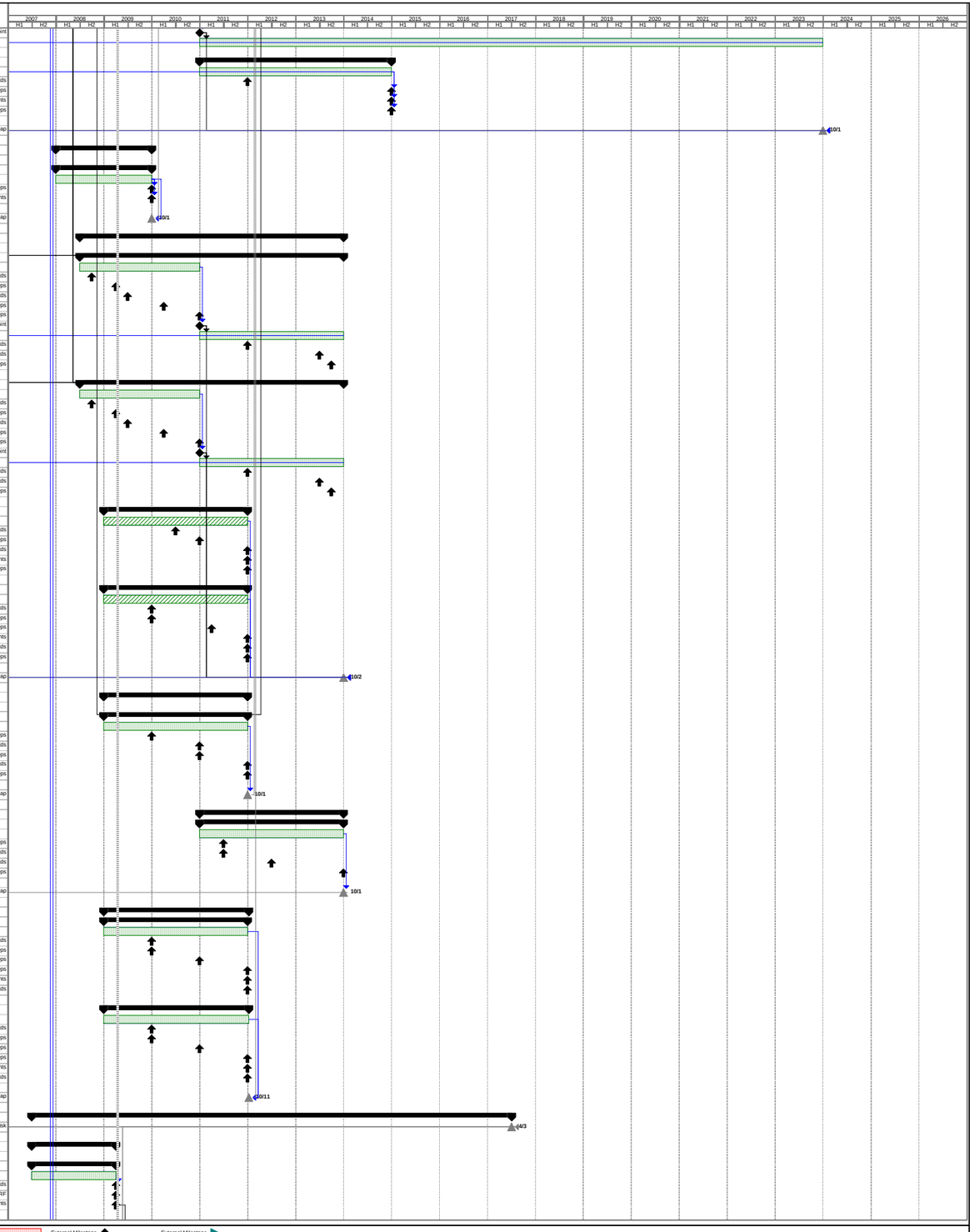
ID	Total Subjects Required	Propensity to Volunteer (1-5)	Volunteers/ Increment	Total Increments Required	Upmass/ Increment Subject	Downmass/ Increment Subject	Crew Time/ Increment Subject	BDC Time/ Increment	Upmass Increment (calc)	Downmass Increment (calc)	Crew Time/ Increment (calc)	Resources Exist?	IRP Duration	Duration ISS-Subjects Required	Resource Names	Task Name	Duration	Start	Finish	Predecessors	Milestone	Milestone Type
855	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		RA-crew cohesion: Risk Cohesion Updates 2	0 days	10/1/23	10/1/23	854	Yes	Information to HSRF
856																						
857	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Risk Assessment-crew performance**	**5297 days?**	**4/1/09**	**10/1/23**		**No**	
858	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		RA-crew performance: Rev.Lit. / Ops Intvw	549 days?	4/1/09	10/1/10		No	
859	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		RA-crew performance: Are studies needed?	0 days	10/1/10	10/1/10	858	Yes	Decision Point
860	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		RA-crew performance: Gaps and Activities to be subsequently revised/defined	2192 days?	10/2/10	10/1/16	859	No	
861	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		RA-crew performance: Lunar Long Update	458 days?	7/1/18	10/1/19	860	No	
862	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		RA-crew performance: Risk Performance Updates 1	0 days	10/1/19	10/1/19	861	Yes	Information to HSRF
863	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		RA-crew performance: Risk Performance Updates 2	0 days	10/1/19	10/1/19		Yes	Informing Mission Ops
864	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		RA-crew performance: Mars Update	549 days?	4/1/22	10/1/23	861	No	
865	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		RA-crew performance: Risk Performance Updates 3	0 days	10/1/23	10/1/23	864	Yes	Information to HSRF
866	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		RA-crew performance: Risk Performance Updates 4	0 days	10/1/23	10/1/23	865	Yes	Informing Mission Ops
867																						
868	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Risk Assessment-ground-crew interaction**	**5297 days?**	**4/1/09**	**10/1/23**		**No**	
869	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		RA-ground-crew interaction: Rev.Lit. / Ops Intvw	549 days?	4/1/09	10/1/10		No	
870	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		RA-ground-crew interaction: Are studies needed?	0 days	10/1/10	10/1/10	869	Yes	Decision Point
871	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		RA-ground-crew interaction: Gaps and Activities to be subsequently revised/defined	2192 days?	10/2/10	10/1/16	870	No	
872	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		RA-ground-crew interaction: Lunar Long Update	458 days?	7/1/18	10/1/19	871	No	
873	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		RA-ground-crew interaction: Risk Crew-Ground Interaction Updates 1	0 days	10/1/19	10/1/19	872	Yes	Informing Mission Ops
874	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		RA-ground-crew interaction: Mars Update	549 days?	4/1/22	10/1/23	872	No	
875	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		RA-ground-crew interaction: Risk Crew-Ground Interaction Updates 2	0 days	10/1/23	10/1/23	874	Yes	Informing Mission Ops
876																						
877	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Team Gap 1	0 days	10/1/16	10/1/16	843FF,850FF,8!	Yes	Done with Gap
878																						
879	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 2: Team2 What are the most optimal ways to monitor and measure crew cohesion, crew p**	**6031 days?**	**4/1/09**	**10/4/25**		**No**	
880	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Assess measures for monitoring crew cohesion**	**6031 days?**	**4/1/09**	**10/4/25**		**No**	
881	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Crew Cohesion: Test measures in analogs	1097 days?	4/1/09	4/1/12		No	
882	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Crew Cohesion: Analysis	184 days?	4/2/12	10/2/12	881	No	
883	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Crew Cohesion: Prep 1	366 days?	10/3/12	10/3/13	882	No	
884	25	5	3	8.33	0	0	10	0.1	0	0	30	1	0 days	1500 days		Crew Cohesion: ISS Validation Studies	1005 days?	10/4/13	7/4/16	883	No	
885	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Crew Cohesion: ISS Validation Studies Analysis	92 days?	7/5/16	10/4/16	884	No	
886	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Crew Cohesion: Crew Communications Measure/Technology	1 day?	10/5/16	10/5/16	885	No	Information to HSRF
887	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Crew Cohesion: Are additional techs needed to address crew coping?	1 day?	10/5/16	10/5/16	885	No	
888	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Crew Cohesion: Ground-based CM Studies	1643 days?	10/6/16	4/5/21	887	No	
889	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Crew Cohesion: Ground-based CM Studies Analysis	183 days?	4/6/21	10/5/21	888	No	
890	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Crew Cohesion: Prep 2	365 days?	10/6/16	10/5/17	887	No	
891	25	5	3	8.33	0	0	10	0.01	0	0	30	1	0 days	1500 days		Crew Cohesion: Flight Validation Studies	1278 days?	10/6/17	4/5/21	890	No	
892	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Crew Cohesion: Flight Validation Studies Analysis	183 days?	4/6/21	10/5/21	891	No	
893	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Crew Cohesion: Select best technologies	1 day?	10/6/21	10/6/21	889,892	No	
894	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Crew Cohesion: Lunar Study	1096 days?	4/1/20	4/1/23		No	
895	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Crew Cohesion: Lunar Study Analysis	92 days?	4/2/23	7/2/23	894	No	
896	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Crew Cohesion: Are technologies adequate?	1 day?	7/3/23	7/3/23	895	No	
897	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Crew Cohesion: Technologies to monitor coping validated in new lunar outpost environmer	1 day?	7/3/23	7/3/23	895	No	Information to HSRF
898	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Crew Cohesion: Lunar CM Studies	824 days?	7/4/23	10/4/25	896	No	
899																						
900	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Assess additional measures for monitoring crew cohesion**	**4840 days?**	**10/1/10**	**12/31/23**		**No**	
901	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Additional monitoring of crew cohesion: Rev.Lit. / Ops Intvw	549 days?	10/1/10	4/1/12		No	
902	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Additional monitoring of crew cohesion: Are studies needed?	0 days	4/1/12	4/1/12	901	Yes	Decision Point
903	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Additional monitoring of crew cohesion: Gaps and Activities to be subsequently revised/def	2192 days?	4/2/12	4/2/18	902	No	
904	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Additional monitoring of crew cohesion: Lunar Long Update	550 days?	10/1/19	4/2/21	903	No	
905	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Additional monitoring of crew cohesion: Risk Cohesion Updates 1	0 days	4/2/21	4/2/21	904	Yes	Information to HSRF
906	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Additional monitoring of crew cohesion: Mars Update	549 days?	7/1/22	12/31/23	904	No	
907	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Additional monitoring of crew cohesion: Risk Cohesion Updates 2	0 days	12/31/23	12/31/23	906	Yes	Information to HSRF
908																						
909	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Assess measures for monitoring crew performance**	**4840 days?**	**10/1/10**	**12/31/23**		**No**	
910	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		crew performance monitoring: Rev.Lit. / Ops Intvw	549 days?	10/1/10	4/1/12		No	
911	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		crew performance monitoring: Are studies needed?	0 days	4/1/12	4/1/12	910	Yes	Decision Point
912	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		crew performance monitoring: Gaps and Activities to be subsequently revised/defined	2192 days?	4/2/12	4/2/18	911	No	
913	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		crew performance monitoring: Lunar Long Update	550 days?	10/1/19	4/2/21	912	No	
914	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		crew performance monitoring: Risk Prfmnc Updates 1	0 days	4/2/21	4/2/21	913	Yes	Informing Mission Ops
915	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		crew performance monitoring: Risk Prfmnc Updates 2	0 days	4/2/21	4/2/21	913	Yes	Information to HSRF
916	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		crew performance monitoring: Mars Update	549 days?	7/1/22	12/31/23	913	No	
917	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		crew performance monitoring: Risk Prfmnc Updates 3	0 days	12/31/23	12/31/23	916	Yes	Informing Mission Ops
918	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		crew performance monitoring: Risk Prfmnc Updates 4	0 days	12/31/23	12/31/23	916	Yes	Information to HSRF
919																						
920	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Assess measures for monitoring crew-ground interaction**	**4840 days?**	**10/1/10**	**12/31/23**		**No**	
921	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		crew-ground interaction monitoring: Rev.Lit. / Ops Intvw	549 days?	10/1/10	4/1/12		No	
922	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		crew-ground interaction monitoring: Are studies needed?	0 days	4/1/12	4/1/12	921	Yes	Decision Point
923	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		crew-ground interaction monitoring: Gaps and Activities to be subsequently revised/defined	2192 days?	4/2/12	4/2/18	922	No	
924	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		crew-ground interaction monitoring: Lunar Long Update	550 days?	10/1/19	4/2/21	923	No	
925	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		crew-ground interaction monitoring: Risk Crew-Ground Interaction Updates 1	0 days	4/2/21	4/2/21	924	Yes	Informing Mission Ops
926	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		crew-ground interaction monitoring: Mars Update	549 days?	7/1/22	12/31/23	924	No	
927	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		crew-ground interaction monitoring: Risk Crew-Ground Interaction Updates 2	0 days	12/31/23	12/31/23	926	Yes	Informing Mission Ops
928																						
929	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Team Gap 2	0 days	4/2/18	4/2/18	911FF,912FF,9!	Yes	Done with Gap
930																						
931	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 3: Team3 What additional approaches would enhance current in-flight interventions and c**	**4841 days?**	**10/1/10**	**1/1/24**		**No**	
932																						
933	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**CM: crew cohesion**	**4841 days?**	**10/1/10**	**1/1/24**		**No**	
934	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		CM: crew cohesion: Rev.Lit. / Ops Intvw	549 days?	10/1/10	4/1/12		No	
935	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		CM: crew cohesion: Are studies needed?	0 days	4/1/12	4/1/12	934	Yes	Decision Point
936	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		CM: crew cohesion: Gaps and Activities to be subsequently revised/defined	2192 days?	4/2/12	4/2/18	935	No	
937	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		CM: crew cohesion: Lunar Long Update	458 days?	10/1/18	1/1/20	936	No	
938	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		CM: crew cohesion: Risk Cohesion Updates 1	0 days	1/1/20	1/1/20	937	Yes	Information to HSRF
939	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		CM: crew cohesion: Mars Update	550 days?	7/1/22	1/1/24	937	No	
940	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		CM: crew cohesion: Risk Cohesion Updates 2	0 days	1/1/24	1/1/24	939	Yes	Information to HSRF
941																						
942	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**CM: crew performance**	**4841 days?**	**10/1/10**	**1/1/24**		**No**	
943	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		CM: crew performance Rev.Lit. / Ops Intvw	549 days?	10/1/10	4/1/12		No	
944	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		CM: crew performance Are studies needed?	0 days	4/1/12	4/1/12	943	Yes	Decision Point
945	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		CM: crew performance Gaps and Activities to be subsequently revised/defined	2192 days?	4/2/12	4/2/18	944	No	
946	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		CM: crew performance Lunar Long Update	458 days?	10/1/18	1/1/20	945	No	
947	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		CM: crew performance: Risk Prfmnc Updates 1	0 days	1/1/20	1/1/20	946	Yes	Informing Mission Ops
948	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		CM: crew performance: Risk Prfmnc Updates 2	0 days	1/1/20	1/1/20		Yes	Information to HSRF
949	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		CM: crew performance Mars Update	550 days?	7/1/22	1/1/24	946	No	
950	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		CM: crew performance: Risk Prfmnc Updates 3	0 days	1/1/24	1/1/24	949	Yes	Informing Mission Ops
951	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		CM: crew performance: Risk Prfmnc Updates 4	0 days	1/1/24	1/1/24	950	Yes	Information to HSRF
952																						
953	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**CM: crew-ground interaction**	**4841 days?**	**10/1/10**	**1/1/24**		**No**	
954	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		CM: crew-ground interaction: Rev.Lit. / Ops Intvw	549 days?	10/1/10	4/1/12		No	
955	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		CM: crew-ground interaction: Are studies needed?	0 days	4/1/12	4/1/12	954	Yes	Decision Point
956	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		CM: crew-ground interaction: Gaps and Activities to be subsequently revised/defined	2192 days?	4/2/12	4/2/18	955	No	
957	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		CM: crew-ground interaction: Lunar Long Update	458 days?	10/1/18	1/1/20	956	No	
958	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		CM: crew-ground interaction: Risk Crew-Ground Interaction Updates 1	0 days	1/1/20	1/1/20	957	Yes	Informing Mission Ops
959	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		CM: crew-ground interaction: Mars Update	550 days?	7/1/22	1/1/24	957	No	
960	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		CM: crew-ground interaction: Risk Crew-Ground Interaction Updates 2	0 days	1/1/24	1/1/24	959	Yes	Informing Mission Ops
961																						
962	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Inform SHFH: Psychosocial Requirements Food Ops (TBD)**	**1097 days?**	**10/1/10**	**10/1/13**		**No**	
963	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Psychosocial Food: Determine requirements per mission length	1097 days?	10/1/10	10/1/13		No	
964	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Psychosocial Food: Informing Mission Ops	0 days	10/1/13	10/1/13	963	Yes	Information to other Elements
965																						
966	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Team Gap 3	0 days	4/2/18	4/2/18	935FF,936FF,9!	Yes	Done with Gap
967																						
968	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 4: Team4 What are the most optimal ways to compose crews to ensure crew cohesion, op**	**5482 days?**	**10/1/09**	**10/3/24**		**No**	
969	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Crew Composition Studies**	**5482 days?**	**10/1/09**	**10/3/24**		**No**	
970	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Crew Composition Studies: Rev.Lit. / Ops Int	548 days?	10/1/09	4/1/11		No	
971	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Crew Composition Studies: Flight Prep	367 days?	4/2/11	4/2/12	970	No	
972	45	5	3	15	0	0	10	0.1	0	0	30	1	0 days	2700 days		Crew Composition Studies: Assess ISS crew composition & crew Cohesion/performance	2374 days?	4/3/12	10/2/18	971	No	
973	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Crew Composition Studies: Analysis	365 days?	10/3/18	10/2/19	972	No	
974	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Crew Composition Studies: Composition Recommendations	0 days	10/2/19	10/2/19	973	Yes	Information to HSRF
975	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Crew Composition Studies: What tools are needed to assess these characteristics?	0 days	10/2/19	10/2/19	973	Yes	
976	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Crew Composition Studies: Lunar Studies	914 days?	10/1/21	4/1/24		No	



ID	Total Subjects Required	Propensity to Vounteer (1-5)	Volunteers/ Increment	Total Increments Required	Upmass/ Increment Subject	Downmass/ Increment Subject	Crew Time/ Increment Subject	BDC Time/ Increment	Jpmass /scremer	Downmass Increment (calc)	Crew Time/ Increment (calc)	Resources Exist?	IRP Duration	Duration ISS-Subjects Required	Resource Names	Task Name	Duration	Start	Finish	Predecessors	Milestone	Milestone Type
977	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Crew Composition Studies: Lunar Studies Analysis	184 days?	4/2/24	10/2/24	976	No	
978	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Crew Composition Studies: Recommendations related to composition	1 day?	10/3/24	10/3/24	977	No	Information to HSRF
979																						
980	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Validate measures for Composition**	**2924 days?**	**10/1/13**	**10/2/21**		**No**	
981	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Validate measures for Composition: Ground Studies	2558 days?	10/1/13	10/1/20		No	
982	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Validate measures for Composition: analysis	366 days?	10/2/20	10/2/21	981	No	
983	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Validate measures for Composition: Recommendations regarding measures for composition	0 days	10/2/21	10/2/21	982	Yes	Information to HSRF
984																						
985	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Team Gap 4	0 days	10/2/21	10/2/21	973FF,982FF	Yes	Done with Gap
986																						
987	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 5: Team5 What are the optimal ways to train crews, leaders, and ground support to ensur**	**5846 days?**	**10/1/09**	**10/2/25**		**No**	
988	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Training Studies Crew cohesion and performance:**	**5846 days?**	**10/1/09**	**10/2/25**		**No**	
989	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Training Studies Crew cohesion and performance: Evaluate Ops Training In Analogs / Ops	1189 days?	10/1/09	1/1/13		No	
990	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Training Studies Crew cohesion and performance: Analysis	91 days?	1/2/13	4/2/13	989	No	
991	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Training Studies Crew cohesion and performance: Training Recommendations for flight cre	0 days	4/2/13	4/2/13	990	Yes	Informing Mission Ops
992	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Training Studies Crew cohesion and performance: Informs ExMC & SHFH	0 days	4/2/13	4/2/13	990	Yes	Information to other Elements
993	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Training Studies Crew cohesion and performance: Flight Prep 1	365 days?	4/3/13	4/2/14	990	No	
994	15	5	3	5	0	0	20	0.5	0	0	60	1	0 days	900 days		Training Studies Crew cohesion and performance: Evaluate Training Effectiveness ISS	1097 days?	4/3/14	4/3/17	993	No	
995	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Training Studies Crew cohesion and performance: Evaluate Training Effectiveness ISS Ana	366 days?	4/4/17	4/4/18	994	No	
996	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Training Studies Crew cohesion and performance: Update Training Recommendations	0 days	4/4/18	4/4/18	995	Yes	Informing Mission Ops
997	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Training Studies Crew cohesion and performance: Are training recommendations adequate	0 days	4/4/18	4/4/18	995	Yes	Decision Point
998	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Training Studies Crew cohesion and performance: Ground-based Studies	1645 days?	4/5/18	10/5/22	997	No	
999	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Training Studies Crew cohesion and performance: Ground-based Studies Analysis	184 days?	10/6/22	4/7/23	998	No	
1000	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Training Studies Crew cohesion and performance: Select best training	0 days	4/7/23	4/7/23	999,1003	Yes	Decision Point
1001	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Training Studies Crew cohesion and performance: Flight Prep 2	367 days?	4/5/18	4/6/19	997	No	
1002	15	5	3	5	0	0	20	0.5	0	0	60	1	0 days	900 days		Training Studies Crew cohesion and performance: Flight Validation Studies	1278 days?	4/7/19	10/5/22	1001	No	
1003	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Training Studies Crew cohesion and performance: Flight Validation Studies Analysis	184 days?	10/6/22	4/7/23	1002	No	
1004	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Training Studies Crew cohesion and performance: Lunar Study	1096 days?	4/1/20	4/1/23		No	
1005	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Training Studies Crew cohesion and performance: Lunar Study Analysis	92 days?	4/2/23	7/2/23	1004	No	
1006	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Training Studies Crew cohesion and performance: Are recommendations adequate?	0 days	7/2/23	7/2/23	1005	Yes	CM
1007	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Training Studies Crew cohesion and performance: Training Recommendations For explorat	0 days	7/2/23	7/2/23	1006	Yes	CM
1008	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Training Studies Crew cohesion and performance: Lunar CM Studies	823 days?	7/3/23	10/2/25	1006	No	
1009																						
1010	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Training Studies Ground-Crew interactions**	**1644 days?**	**10/1/09**	**4/1/14**		**No**	
1011	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Training Studies Ground-Crew interactions: Evaluate Training for Crew-Ground Interaction	1644 days?	10/1/09	4/1/14		No	
1012	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Training Studies Ground-Crew interactions: Informs ExMC & SHFH	0 days	4/1/14	4/1/14		Yes	Information to other Elements
1013																						
1014	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Team Gap 5	0 days	4/7/23	4/7/23	1000FF,1012FF	Yes	Done with Gap
1015																						
1016	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 6: Team6 How does increased work autonomy impact crew cohesion, crew performance,**	**5213 days?**	**7/1/08**	**10/8/22**		**No**	
1017	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Impact of increased work autonomy on performance 2**	**5213 days?**	**7/1/08**	**10/8/22**		**No**	
1018	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Work Autonomy: Autonomy Workshop	92 days?	4/1/10	7/1/10		No	
1019	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Work Autonomy: Analogs: NEEMO	640 days?	7/1/08	4/1/10		No	
1020	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Work Autonomy: Analogs: NEEMO analysis	92 days?	4/2/10	7/2/10	1019	No	
1021	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Work Autonomy: Flight Prep 1	275 days?	7/3/10	4/3/11	1020	No	
1022	18	5	3	6	0	0	20	0.5	0	0	60	1	0 days	1080 days		Work Autonomy: ISS Data Collection	1645 days?	4/4/11	10/4/15	1018,1021	No	
1023	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Work Autonomy: ISS Data Collection Analysis	275 days?	10/5/15	7/5/16	1022	No	
1024	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Work Autonomy: Recommendations based on evidence	0 days	7/5/16	7/5/16	1023	Yes	Informing Mission Ops
1025	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Work Autonomy: Are CM studies needed to address autonomy?	0 days	7/5/16	7/5/16	1023	Yes	Decision Point
1026	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Work Autonomy: Ground-based CM Studies	914 days?	7/6/16	1/5/19	1025	No	
1027	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Work Autonomy: Ground-based CM Studies Analysis	91 days?	1/6/19	4/6/19	1026	No	
1028	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Work Autonomy: Select best CM	0 days	4/6/19	4/6/19	1027	Yes	Decision Point
1029	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Work Autonomy: Flight Prep 2	367 days?	4/7/19	4/7/20	1028	No	
1030	18	5	3	6	0	0	20	0.5	0	0	60	1	0 days	1080 days		Work Autonomy: Flight Validation Studies	821 days?	4/8/20	7/7/22	1029	No	
1031	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Work Autonomy: Flight Validation Studies Analysis	93 days?	7/8/22	10/8/22	1030	No	
1032	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Work Autonomy: RCS 1	366 days?	4/1/09	4/1/10		No	
1033	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Work Autonomy: RCS 2	366 days?	4/2/10	4/2/11	1032	No	
1034	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Work Autonomy: RCS Analysis	91 days?	4/3/11	7/2/11	1033	No	
1035																						
1036	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**SPiFe 2**	**2376 days?**	**10/1/09**	**4/2/16**		**No**	
1037	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		SPiFe: SPiFe Development	366 days?	10/1/09	10/1/10		No	
1038	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		SPiFe: SPiFe Development Analysis	183 days?	10/2/10	4/2/11	1037	No	
1039	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		SPiFe: Ready for spaceflight?	0 days	4/2/11	4/2/11	1038	Yes	Decision Point
1040	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		SPiFe: Analog Studies	914 days?	4/1/13	10/1/15	1039	No	
1041	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		SPiFe: Analog Studies Analysis	184 days?	10/2/15	4/2/16	1040	No	
1042																						
1043	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Autonomy, Cohesion and Performance**	**2833 days?**	**10/1/09**	**7/3/17**		**No**	
1044	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Autonomy, Cohesion & Performance: Rev.Lit. / Workshop	639 days?	10/1/09	7/1/11		No	
1045	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Autonomy, Cohesion & Performance: Informs SHFH & ExMC	0 days	7/1/11	7/1/11	1044	Yes	Information to other Elements
1046	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Autonomy, Cohesion & Performance: Are additional studies needed to assess and autonon	0 days	7/1/11	7/1/11	1044	Yes	
1047	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Autonomy, Cohesion & Performance: Gaps and Activities to be subsequently revised/define	2193 days?	7/2/11	7/2/17	1046	No	
1048	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Autonomy, Cohesion & Performance: Information to HSRF	1 day?	7/3/17	7/3/17	1047	No	Information to HSRF
1049																						
1050	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Team Gap 6	0 days	10/8/22	10/8/22	1041FF,1031FF	Yes	Done with Gap
1051																						
1052	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 7: Team7 What aspects of communication impact crew cohesion, optimize crew performa**	**5763 days?**	**10/1/07**	**7/11/23**		**No**	
1053	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Conflict Management for crew cohesion**	**3017 days?**	**10/1/08**	**1/3/17**		**No**	
1054	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Conflict Management: Conflict Management Technology: Analog tests	1188 days?	10/1/08	1/1/12		No	
1055	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Conflict Management: Analysis	275 days?	1/2/12	10/2/12	1054	No	
1056	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Conflict Management: Flight Prep	457 days?	10/3/12	1/2/14	1055	No	
1057	25	5	3	8.33	0	0	20	0.5	0	0	60	1	0 days	1500 days		Conflict Management: ISS Data Collection	1004 days?	1/3/14	10/2/16	1056	No	
1058	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Conflict Management: ISS Data Collection Analysis	93 days?	10/3/16	1/3/17	1057	No	
1059	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Conflict Management: Conflict management technology	0 days	1/3/17	1/3/17	1058	Yes	Information to HSRF
1060																						
1061	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Optimal Communication Strategies crew-ground interaction**	**5032 days?**	**10/1/09**	**7/11/23**		**No**	
1062	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Communication: crew-ground interaction: Rev.Lit. / Ops Intvw	549 days?	10/1/09	4/2/11		No	
1063	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Communication: crew-ground interaction: Are additional studies needed to assess commun	0 days	4/2/11	4/2/11	1062	Yes	Decision Point
1064	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Communication: crew-ground interaction: Gaps and Activities to be subsequently revised/d	1737 days?	4/3/11	1/3/16	1063	No	
1065	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Communication: crew-ground interaction: Are additional CMs needed to address cohesion	0 days	1/3/17	1/3/17	1058,1064,1077	Yes	Decision Point
1066	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Communication: crew-ground interaction: Ground-based CM Studies	824 days?	1/4/17	4/7/19	1065	No	
1067	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Communication: crew-ground interaction: Ground-based CM Studies analysis	91 days?	4/8/19	7/7/19	1066	No	
1068	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Communication: crew-ground interaction: Select best CM	0 days	7/7/19	7/7/19	1067	Yes	
1069	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Communication: crew-ground interaction: Flight Prep	550 days?	7/8/19	1/7/21	1068	No	
1070	25	5	3	8.33	0	0	20	0.5	0	0	60	1	0 days	1500 days		Communication: crew-ground interaction: Flight Validation Studies	822 days?	1/8/21	4/9/23	1069	No	
1071	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Communication: crew-ground interaction: Flight Validation Studies analysis	93 days?	4/10/23	7/11/23	1070	No	
1072	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Communication: crew-ground interaction: Lunar Study	732 days?	10/1/20	10/2/22		No	
1073	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Communication: crew-ground interaction: CM(s) to aid communication, cohesion Validated	0 days	10/2/22	10/2/22	1072	Yes	CM
1074																						
1075	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Optimal Communication Strategies Crew Performance**	**2193 days?**	**10/1/07**	**10/1/13**		**No**	
1076	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Communication: crew performance: Ground-based studies: Lab – Psychosocial Performanc	1918 days?	10/1/07	12/30/12		No	
1077	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Communication: crew performance: Analysis	184 days?	4/1/13	10/1/13	1076	No	
1078	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Communication: crew performance: Recommendations, Optimal Communication Strategies	0 days	10/1/13	10/1/13	1077	Yes	Informing Mission Ops
1079																						
1080	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Team Gap 7	0 days	7/11/23	7/11/23	1071FF,1065FF	Yes	Done with Gap
1081																						
1082																						
1083	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Risk of Error Due to Inadequate Information**	**5845 days?**	**10/1/07**	**10/1/23**		**No**	
1084	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Pre-Lunar Inadequate Information	0 days	10/1/23	10/1/23	1109FF,1118FF	Yes	Done with Risk
1085																						
1086	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 1: SHFE 3.1.1.a: How can we develop objective training measures to determine operator**	**5845 days?**	**10/1/07**	**10/1/23**		**No**	
1087																						
1088	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Medical Proficiency Training**	**1097 days?**	**10/1/07**	**10/1/10**		**No**	
1089	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Medical Proficiency Training: Develop integrated procedure and training process to optimiz	1097 days?	10/1/07	10/1/10		No	
1090	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Medical Proficiency Training: Initial Training materials And medical procedures integrated	0 days	10/1/09	10/1/09		Yes	Informing Mission Ops
1091	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Medical Proficiency Training: Share information with ExMC	0 days	10/1/10	10/1/10	1089	Yes	Informing Mission Ops
1092	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Medical Proficiency Training: Complete Training Materials and Medical Procedures Library	0 days	10/1/10	10/1/10	1089	Yes	Information to other Elements
1093																						
1094	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Spaceflight Resource Management Training**	**5845 days?**	**10/1/07**	**10/1/23**		**No**	
1095	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Spaceflight Resource Management: Develop SFRM for insertion into existing MOD training	1097 days?	10/1/07	10/1/10		No	
1096	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Spaceflight Resource Management: New training materials for use by MOD	0 days	4/1/09	4/1/09		Yes	Informing Mission Ops
1097	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Spaceflight Resource Management: Deliver SFRM Tool to MOD	0 days	10/1/10	10/1/10	1095	Yes	Information to other Elements
1098	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Spaceflight Resource Management: Complete Training Materials with Integrated Space Re	0 days	10/1/10	10/1/10	1095	Yes	Informing Mission Ops



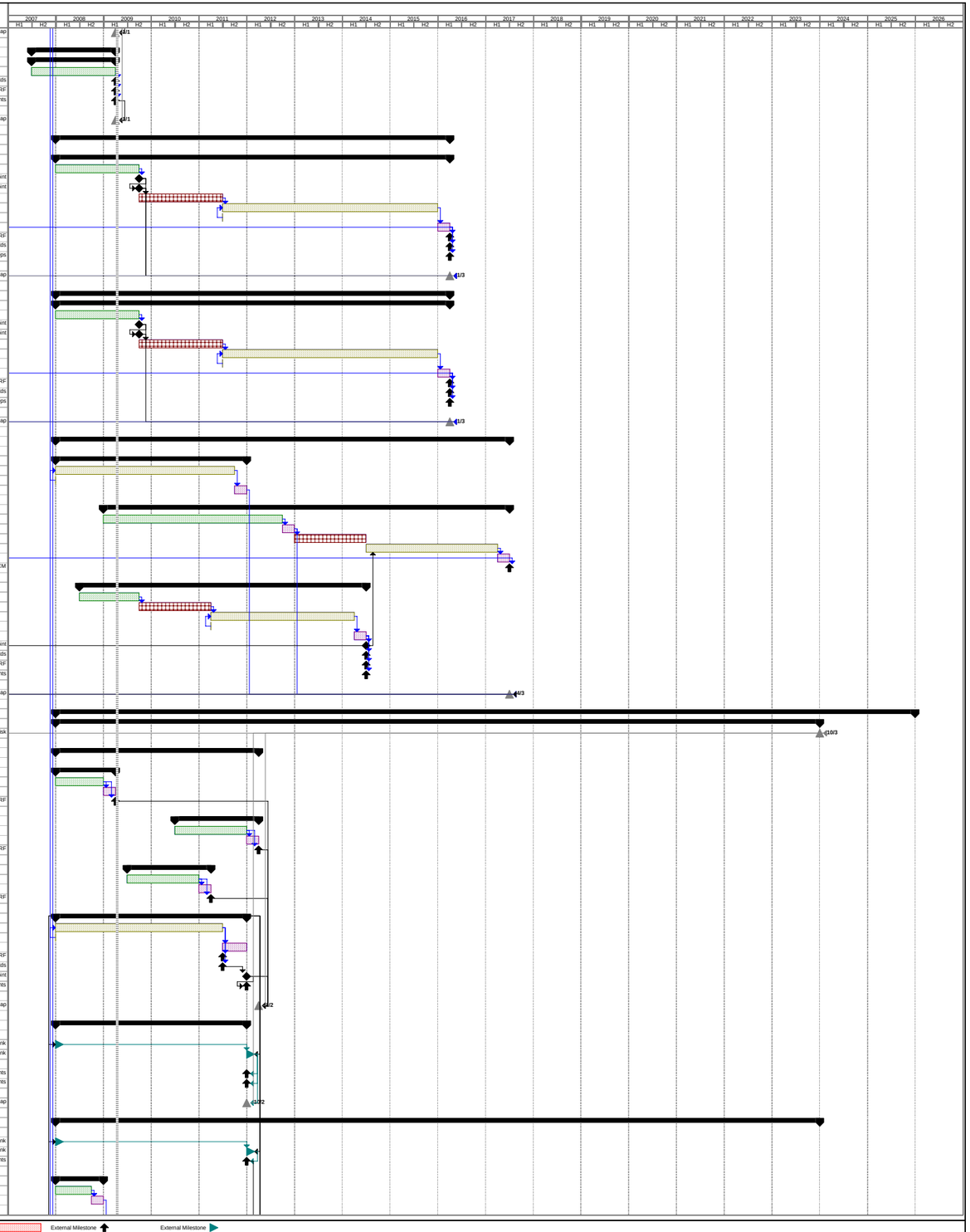
ID	Total Subjects Required	Propensity to Vounteer (1-5)	Volunteers/ Increment	Total Increments Required	Upmass/ Increment Subject	Downmass/ Increment Subject	Crew Time/ Increment Subject	BDC Time/ Increment	Upmass Increment (calc)	Downmass Increment (calc)	Crew Time/ Increment (calc)	Resources Exist?	IRP Duration	Duration ISS-Subjects Required	Resource Names	Task Name	Duration	Start	Finish	Predecessors	Milestone	Milestone Type
1099	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Spaceflight Resource Management: Are the training products mature enough to satisfy the	0 days	10/1/10	10/1/10	1095	Yes	Decision Point
1100	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Spaceflight Resource Management: Continue development / validation in analog / ISS Ops	4748 days?	10/2/10	10/1/23	1099	No	
1101																						
1102	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Training Proficiency Methods Development**	**1462 days?**	**10/1/10**	**10/1/14**		**No**	
1103	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Proficiency Methods: Assessment and development of training metrics to evaluate training r	1462 days?	10/1/10	10/1/14		No	
1104	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Proficiency Methods: Info to HIDH	0 days	10/1/11	10/1/11		Yes	Information for Health Stds
1105	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Proficiency Methods: Prelim metrics for training proficiency assessment	0 days	10/1/14	10/1/14	1103	Yes	Informing Mission Ops
1106	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Proficiency Methods: CR to HIDH	0 days	10/1/14	10/1/14	1103	Yes	rements to Other Programs/Elements
1107	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Proficiency Methods: Validated metrics for training proficiency assessment	0 days	10/1/14	10/1/14	1103	Yes	Informing Mission Ops
1108																						
1109	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Inadequate Information Gap 1	0 days	10/1/23	10/1/23	1103FF,1100FF	Yes	Done with Gap
1110																						
1111	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 2: SHFE 3.1.2.a: How can a capability for semi-autonomous planning and dynamically req**	**732 days?**	**10/1/07**	**10/1/09**		**No**	
1112																						
1113	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Science Planning Interface to Engineering (SPIFe) – Scheduling Tool**	**732 days?**	**10/1/07**	**10/1/09**		**No**	
1114	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		SPIFe: Develop/Test SPIFe	732 days?	10/1/07	10/1/09		No	
1115	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		SPIFe: Informing Mission Ops	0 days	10/1/09	10/1/09	1114	Yes	Informing Mission Ops
1116	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		SPIFe: Delivery to BHP for use in NEEMO	0 days	10/1/09	10/1/09	1114	Yes	Information to other Elements
1117																						
1118	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Inadequate Information Gap 2	0 days	10/1/09	10/1/09	1114FF	Yes	Done with Gap
1119																						
1120	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 3: SHFE 3.1.2.2.a: How do we ensure that the displays and control designs and technolo**	**2011 days?**	**4/1/08**	**10/2/13**		**No**	
1121																						
1122	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Displays (auditory/visual) Development:**	**2011 days?**	**4/1/08**	**10/2/13**		**No**	
1123	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Displays (auditory/visual) Development: Investigate/Develop Req'ts for visual/auditory displ	914 days?	4/1/08	10/1/10		No	
1124	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Displays (auditory/visual) Development: Info to HSIR, HIDH, Orion Display Standards Docu	0 days	7/1/08	7/1/08		Yes	Information for Health Stds
1125	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Displays (auditory/visual) Development: Display Design Recommendations/ Solutions for O	0 days	1/1/09	1/1/09		Yes	Informing Mission Ops
1126	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Displays (auditory/visual) Development: CR to HSIR, HIDH, Orion Display Standards Docur	0 days	4/1/09	4/1/09		Yes	Recommend Update to Health Stds
1127	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Displays (auditory/visual) Development: Display Design Recommendations/ Solutions for O	0 days	1/1/10	1/1/10		Yes	Informing Mission Ops
1128	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Displays (auditory/visual) Development: Display Requirements For Lander	0 days	10/1/10	10/1/10		Yes	Informing Mission Ops
1129	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Displays (auditory/visual) Development: Is Display technology adequate for Lander Project?	0 days	10/1/10	10/1/10	1123	Yes	Decision Point
1130	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Displays (auditory/visual) Development: Dev. design solutions for displays	1097 days?	10/2/10	10/2/13	1129	No	
1131	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Displays (auditory/visual) Development: Information for Health Stds	0 days	10/1/11	10/1/11		Yes	Information for Health Stds
1132	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Displays (auditory/visual) Development: CR to HSIR, HIDH for Lander PDR	0 days	4/1/13	4/1/13		Yes	Recommend Update to Health Stds
1133	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Displays (auditory/visual) Development: Design Solutions for Displays	0 days	7/1/13	7/1/13		Yes	Informing Mission Ops
1134																						
1135	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Controls Technology Survey and Testing**	**2011 days?**	**4/1/08**	**10/2/13**		**No**	
1136	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Controls Technology: Evaluate Options for cursor control hardware, Software, and evaluatic	914 days?	4/1/08	10/1/10		No	
1137	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Controls Technology: Info to HSIR, HIDH, Orion Display Standards Documentation	0 days	7/1/08	7/1/08		Yes	Information for Health Stds
1138	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Controls Technology: Cursor Control Recommendations/ Solutions For Orion System 1	0 days	1/1/09	1/1/09		Yes	Informing Mission Ops
1139	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Controls Technology: CR to HSIR, HIDH, Orion Display Standards Documentation for Orior	0 days	4/1/09	4/1/09		Yes	Recommend Update to Health Stds
1140	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Controls Technology: Cursor Control Recommendations/ Solutions For Orion System 2	0 days	1/1/10	1/1/10		Yes	Informing Mission Ops
1141	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Controls Technology: Cursor Control Req'ts For Lander	0 days	10/1/10	10/1/10		Yes	Informing Mission Ops
1142	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Controls Technology: Is control technology adequate for Lander Project?	0 days	10/1/10	10/1/10	1136	Yes	Decision Point
1143	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Controls Technology: Dev. control solutions for displays	1097 days	10/2/10	10/2/13	1142	No	
1144	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Controls Technology: Information for Health Stds	0 days?	10/1/11	10/1/11		Yes	Information for Health Stds
1145	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Controls Technology: CR to HSIR, HIDH for Lander PDR	0 days?	4/1/13	4/1/13		Yes	Recommend Update to Health Stds
1146	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Controls Technology: Design Solutions for Controls	0 days?	7/1/13	7/1/13		Yes	Informing Mission Ops
1147																						
1148	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Sensorimotor Displays and Controls to Enhance the Safety of Human/Machine Cooperatic**	**1096 days?**	**10/1/08**	**10/1/11**		**No**	
1149	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sensorimotor Displays and Controls: Develop/evaluate human/machine display countermei	1096 days?	10/1/08	10/1/11		No	
1150	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sensorimotor Displays and Controls: Input to HIDH	0 days	4/1/10	4/1/10		Yes	Information for Health Stds
1151	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sensorimotor Displays and Controls: Input to Lander SRR regarding design requirements f	0 days	10/1/10	10/1/10		Yes	Informing Mission Ops
1152	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sensorimotor Displays and Controls: CR to HIDH 1	0 days	10/1/11	10/1/11		Yes	Recommend Update to Health Stds
1153	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sensorimotor Displays and Controls: Data Shared with HHC	0 days	10/1/11	10/1/11		Yes	Information to other Elements
1154	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sensorimotor Displays and Controls: CR to HIDH 2	0 days	10/1/11	10/1/11		Yes	Informing Mission Ops
1155																						
1156	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Advanced displays for Efficient Training and Operation of Robotic Systems**	**1096 days?**	**10/1/08**	**10/1/11**		**No**	
1157	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Robotic Systems: Develop training techniques/interfaces to aid in spatial orientation and op	1096 days?	10/1/08	10/1/11		No	
1158	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Robotic Systems: Input to HIDH	0 days	10/1/09	10/1/09		Yes	Information for Health Stds
1159	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Robotic Systems: Recommendations to Orion CDR for interface design, displays, and C&W	0 days	10/1/09	10/1/09		Yes	Informing Mission Ops
1160	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Robotic Systems: Input to Lander SRR regarding design requirements for interfaces, displa	0 days	1/1/11	1/1/11		Yes	Informing Mission Ops
1161	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Robotic Systems: Data Shared with HHC	0 days	10/1/11	10/1/11		Yes	Information to other Elements
1162	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Robotic Systems: CR to HIDH 1	0 days	10/1/11	10/1/11		Yes	Recommend Update to Health Stds
1163	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Robotic Systems: CR to HIDH 2	0 days	10/1/11	10/1/11		Yes	Informing Mission Ops
1164																						
1165	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Inadequate Information Gap 3	0 days	10/2/13	10/2/13	1130FF,1149FF	Yes	Done with Gap
1166																						
1167	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 4: SHFE 3.1.2.2.1.2: How can we develop standard measurement techniques and metrics t**	**1096 days?**	**10/1/08**	**10/1/11**		**No**	
1168																						
1169	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Usability Evaluation:**	**1096 days?**	**10/1/08**	**10/1/11**		**No**	
1170	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Usability Evaluation: Development, assessment, validation of proposed metrics for usability	1096 days?	10/1/08	10/1/11		No	
1171	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Usability Evaluation: Usability Recommendations/ Solutions for Orion system.	0 days	10/1/09	10/1/09		Yes	Informing Mission Ops
1172	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Usability Evaluation: Recommendations to HSIR, HIDH	0 days	10/1/10	10/1/10		Yes	Information for Health Stds
1173	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Usability Evaluation: Usability recommendations/solutions for Lander SRR	0 days	10/1/10	10/1/10		Yes	Informing Mission Ops
1174	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Usability Evaluation: Requirements to HSIR, HIDH for Orion PDR	0 days	10/1/11	10/1/11		Yes	Recommend Update to Health Stds
1175	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Usability Evaluation: Usability design solutions to Lander PDR	0 days	10/1/11	10/1/11		Yes	Informing Mission Ops
1176																						
1177	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Inadequate Information Gap 4	0 days	10/1/11	10/1/11	1170	Yes	Done with Gap
1178																						
1179	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 5: SHFE 3.1.2.3.2: How do we develop computer interface requirements that will ensure th**	**1097 days?**	**10/1/10**	**10/1/13**		**No**	
1180	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Interface Design and Commonality:**	**1097 days?**	**10/1/10**	**10/1/13**		**No**	
1181	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Interface Design and Commonality: Development, assessment and validation of proposed s	1097 days?	10/1/10	10/1/13		No	
1182	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Interface Design and Commonality: HCI requirements for lunar lander SRR	0 days	4/1/11	4/1/11		Yes	Informing Mission Ops
1183	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Interface Design and Commonality: Info to HIDH	0 days	4/1/11	4/1/11		Yes	Information for Health Stds
1184	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Interface Design and Commonality: CR to HIDH	0 days	4/1/12	4/1/12		Yes	Recommend Update to Health Stds
1185	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Interface Design and Commonality: Usability design solutions to Lander PDR	0 days	10/1/13	10/1/13		Yes	Informing Mission Ops
1186																						
1187	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Inadequate Information Gap 5	0 days	10/1/13	10/1/13	1181	Yes	Done with Gap
1188																						
1189	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 6: SHFE 3.1.2.2.2.1 (SM11): Can crewmember spatiomotor abilities be more accurately pr**	**1106 days?**	**10/1/08**	**10/11/11**		**No**	
1190	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Modeling and mitigating spatial disorientation in low-gravity environments**	**1096 days?**	**10/1/08**	**10/1/11**		**No**	
1191	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Spatial disorientation: Analysis and proposed design solutions for displays and C&W systen	1096 days?	10/1/08	10/1/11		No	
1192	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Spatial disorientation: Input to HIDH	0 days	10/1/09	10/1/09		Yes	Information for Health Stds
1193	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Spatial disorientation: Recommendations to Orion CDR for interface design, displays, and C	0 days	10/1/09	10/1/09		Yes	Informing Mission Ops
1194	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Spatial disorientation: Input to Lander SRR regarding design requirements for interfaces, dis	0 days	10/1/10	10/1/10		Yes	Informing Mission Ops
1195	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Spatial disorientation: Input to Lander PDR regarding design solutions for interfaces, displa	0 days	10/1/11	10/1/11		Yes	Informing Mission Ops
1196	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Spatial disorientation: Data Shared with HHC	0 days	10/1/11	10/1/11		Yes	Information to other Elements
1197	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Spatial disorientation: CR to HIDH for Lander PDR	0 days	10/1/11	10/1/11		Yes	Recommend Update to Health Stds
1198																						
1199	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Enhancement of spatial orientation capability of astronauts on the lunar surface.**	**1106 days?**	**10/1/08**	**10/11/11**		**No**	
1200	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Spatial orientation capability: Development of advanced tools to enhance capability for spat	1106 days?	10/1/08	10/11/11		No	
1201	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Spatial orientation capability: Input to HIDH	0 days	10/1/09	10/1/09		Yes	Information for Health Stds
1202	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Spatial orientation capability: Recommendations to Orion CDR for interface design, displays	0 days	10/1/09	10/1/09		Yes	Informing Mission Ops
1203	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Spatial orientation capability: Input to Lander SRR regarding design requirements for interfa	0 days	10/1/10	10/1/10		Yes	Informing Mission Ops
1204	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Spatial orientation capability: Input to Lander PDR regarding design solutions for interfaces,	0 days	10/1/11	10/1/11		Yes	Informing Mission Ops
1205	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Spatial orientation capability: Data Shared with HHC	0 days	10/1/11	10/1/11		Yes	Information to other Elements
1206	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Spatial orientation capability: CR to HIDH for Lander PDR	0 days	10/1/11	10/1/11		Yes	Recommend Update to Health Stds
1207																						
1208	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Inadequate Information Gap 6	0 days	10/11/11	10/11/11	1191FF,1200FF	Yes	Done with Gap
1209																						
1210	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Risk of Impaired Ability to Maintain Control of Vehicles and Other Complex Systems**	**3657 days?**	**4/1/07**	**4/4/17**		**No**	
1211	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Pre-Lunar Ability to Maintain Control	0 days	4/3/17	4/3/17	1221FF,1230FF	Yes	Done with Risk
1212																						
1213	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 1: (SM1) Relationship between in-flight exercise and post-flight sensorimotor performanc**	**642 days?**	**4/1/07**	**1/1/09**		**No**	
1214																						
1215	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Performance Data Mining Task**	**642 days?**	**4/1/07**	**1/1/09**		**No**	
1216	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Performance Data Mining Exercise vs. Performance	642 days?	4/1/07	1/1/09		No	
1217	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Performance Data Mining: Sensorimotor Standard updates 1	0 days	1/1/09	1/1/09	1216	Yes	Recommend Update to Health Stds
1218	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Performance Data Mining: Sensorimotor Standard updates 2	0 days	1/1/09	1/1/09		Yes	Information to HSRF
1219	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Performance Data Mining: Pass Info to ECP for exercise CM development	0 days	1/1/09	1/1/09		Yes	Information to other Elements
1220																						



Project: IRPMonica4
Date: 1/9/09

Task | Progress | Summary | External Tasks | Deadline | Task | Task | Task | Task | External Milestone | External Milestone
Split | Milestone | Project Summary | External Milestone | Task | Task | Task | Task | Task | External Milestone

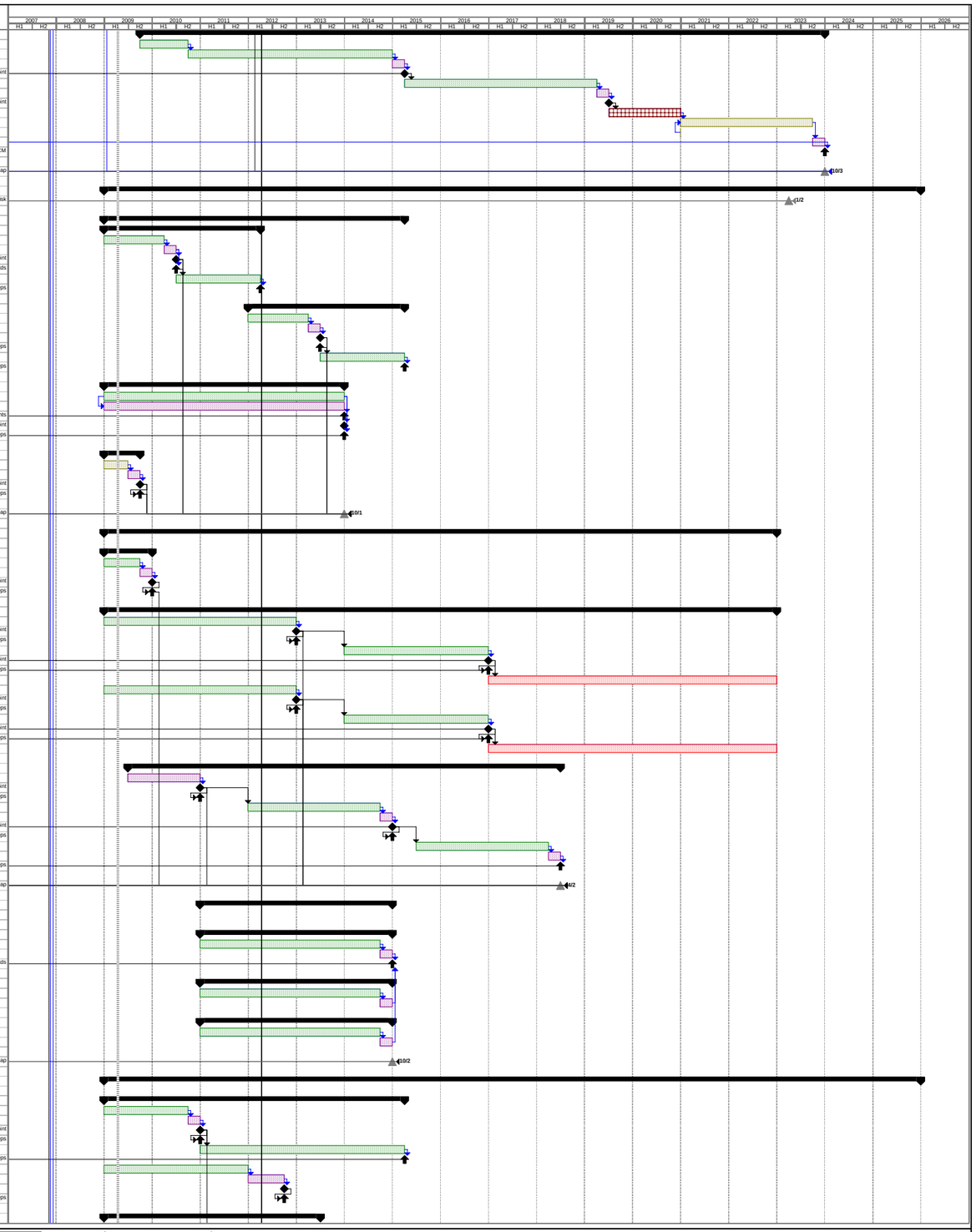
ID	Total Subjects Required	Propensity to Vounteer (1-5)	Volunteers/ Increment	Total Increments Required	Upmass/ Increment Subject	Downmass/ Increment Subject	Crew Time/ Increment Subject	BDC Time/ Increment	Upmass Increment (calc)	Downmass Increment (calc)	Crew Time/ Increment (calc)	Resources Exist?	IRP Duration	Duration ISS-Subjects Required	Resource Names	Task Name	Duration	Start	Finish	Predecessors	Milestone	Milestone Type
1221	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Ability to Maintain Control Gap 1	0 days	1/1/09	1/1/09	1219FF	Yes	Done with Gap
1222																						
1223	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 2: (SM2) What is time course of recovery of sensorimotor function after long duration spa**	**642 days?**	**4/1/07**	**1/1/09**		**No**	
1224	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Recover Data Mining Task**	**642 days?**	**4/1/07**	**1/1/09**		**No**	
1225	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Recover Data Mining Sensorimotor Recovery	642 days?	4/1/07	1/1/09		No	
1226	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Recover Data Mining: Sensorimotor Standard updates 1	0 days	1/1/09	1/1/09	1225	Yes	Recommend Update to Health Stds
1227	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Recover Data Mining: Sensorimotor Standard updates 2	0 days	1/1/09	1/1/09	1225	Yes	Information to HSRF
1228	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Recover Data Mining: Recommended recovery prescriptions to Flight Medicine	0 days	1/1/09	1/1/09	1225	Yes	Information to other Elements
1229																						
1230	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Ability to Maintain Control Gap 2	0 days	1/1/09	1/1/09	1228FF	Yes	Done with Gap
1231																						
1232	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 3: (SM4) Correlate previous performance data with clinical observations.**	**3017 days?**	**10/1/07**	**1/3/16**		**No**	
1233																						
1234	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Data Mining (Performance) Task**	**3017 days?**	**10/1/07**	**1/3/16**		**No**	
1235	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Data Mining (Performance):	640 days?	10/1/07	7/1/09		No	
1236	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Data Mining (Performance): Data available?	0 days	7/1/09	7/1/09	1235	Yes	Decision Point
1237	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Data Mining (Performance): Pursue space normal data gathering?	0 days	7/1/09	7/1/09	1236	Yes	Decision Point
1238	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Data Mining (Performance): Prep	639 days?	7/2/09	4/1/11	1237	No	
1239	12	5	3	4	0	0	0	0.25	0	0	0	1	0 days	720 days		Data Mining (Performance): Obtain Space Normal Data	1645 days?	4/2/11	10/2/15	1240SS,1238	No	
1240	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Data Mining (Performance): Initial Upmass to ISS	1 day	4/2/11	4/2/11		No	
1241	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Data Mining (Performance): Analysis of Space Normal Data	93 days?	10/3/15	1/3/16	1239	No	
1242	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Data Mining (Performance): SM Standard updates 1	0 days	1/3/16	1/3/16	1241	Yes	Information to HSRF
1243	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Data Mining (Performance): SM Standard updates 2	0 days	1/3/16	1/3/16	1241	Yes	Recommend Update to Health Stds
1244	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Data Mining (Performance): Inform mission ops regarding performance decrements	0 days	1/3/16	1/3/16	1241	Yes	Informing Mission Ops
1245																						
1246	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Ability to Maintain Control Gap 3	0 days	1/3/16	1/3/16	1241FF,1237FF	Yes	Done with Gap
1247																						
1248	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 4: (SM5) Effects of disorientation and inter-individual differences on supervisory control,**	**3017 days?**	**10/1/07**	**1/3/16**		**No**	
1249	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Data Mining**	**3017 days?**	**10/1/07**	**1/3/16**		**No**	
1250	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Data Mining :	640 days?	10/1/07	7/1/09		No	
1251	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Data Mining: Data available?	0 days	7/1/09	7/1/09	1250	Yes	Decision Point
1252	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Data Mining: Pursue space normal data gathering?	0 days	7/1/09	7/1/09	1251	Yes	Decision Point
1253	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Data Mining: Prep	639 days?	7/2/09	4/1/11	1252	No	
1254	12	5	3	4	0	0	0	0.25	0	0	0	1	0 days	720 days		Data Mining: Obtain Space Normal Data	1645 days?	4/2/11	10/2/15	1255SS,1253	No	
1255	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Data Mining: Initial Upmass to ISS	1 day	4/2/11	4/2/11		No	
1256	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Data Mining: Analysis of Space Normal Data	93 days?	10/3/15	1/3/16	1254	No	
1257	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Data Mining: SM Standard updates 1	0 days	1/3/16	1/3/16	1256	Yes	Information to HSRF
1258	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Data Mining: SM Standard updates 2	0 days	1/3/16	1/3/16	1256	Yes	Recommend Update to Health Stds
1259	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Data Mining: Inform mission ops regarding performance decrements	0 days	1/3/16	1/3/16	1256	Yes	Informing Mission Ops
1260																						
1261	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Ability to Maintain Control Gap 4	0 days	1/3/16	1/3/16	1256FF,1251FF	Yes	Done with Gap
1262																						
1263	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 5: (SM6) Seated Manual/Visual performance assessment after long-duration spaceflight**	**3474 days?**	**10/1/07**	**4/4/17**		**No**	
1264																						
1265	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Clement ZAG/Otolith Task (ESA Joint study)**	**1463 days?**	**10/1/07**	**10/2/11**		**No**	
1266	8	5	3	2.67	0	0	10	0.25	0	0	30	1	0 days	480 days		Clement ZAG/Otolith (ESA Joint study) N=8	1370 days?	10/1/07	7/1/11	1267SS	No	
1267	0	0	0	#ERROR	6	0	0	0	0	0	0	1	0 days	0 days		Clement ZAG/Otolith (ESA Joint study) Initial Upmass to ISS	1 day?	10/1/07	10/1/07		No	
1268	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Clement ZAG/Otolith (ESA Joint study) Analysis	93 days?	7/2/11	10/2/11	1266	No	
1269																						
1270	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Bloomberg CM to Enhance SM Adaptation:**	**3108 days?**	**10/1/08**	**4/4/17**		**No**	
1271	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Bloomberg SM Adaptation CM: Ground-based CM Studies	1370 days?	10/1/08	7/1/12		No	
1272	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Bloomberg SM Adaptation CM: Analysis	92 days?	7/2/12	10/1/12	1271	No	
1273	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Bloomberg SM Adaptation CM: Flight Prep	547 days?	10/2/12	4/1/14	1272	No	
1274	12	5	3	4	0	0	10	0.25	0	0	30	1	0 days	720 days		Bloomberg SM Adaptation CM: Flight Validation	1006 days?	4/4/14	1/3/17	1284	No	
1275	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Bloomberg SM Adaptation CM: Flight Validation Analysis	90 days?	1/4/17	4/3/17	1274	No	
1276	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Bloomberg SM Adaptation CM: CM for exploration missions to mitigate risk	1 day?	4/4/17	4/4/17	1275	No	CM
1277																						
1278	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Manual/Visual Control Study Task**	**2194 days?**	**4/1/08**	**4/3/14**		**No**	
1279	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Manual/Visual Control Study Solicit	457 days?	4/1/08	7/1/09		No	
1280	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Manual/Visual Control Study: Prep	549 days?	7/2/09	1/1/11	1279	No	
1281	12	5	3	4	0	0	0	2.5	0	0	0	1	0 days	720 days		Manual/Visual Control Study Pre/Post ISS	1097 days?	1/2/11	1/2/14	1280,1282SS	No	
1282	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Manual/Visual Control Study Initial Upmass to ISS	1 day?	1/2/11	1/2/11		No	
1283	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Manual/Visual Control Study Analysis	91 days?	1/3/14	4/3/14	1281	No	
1284	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Manual/Visual Control Study: CM needed?	0 days	4/3/14	4/3/14	1283	Yes	Decision Point
1285	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Manual/Visual Control Study: Information for Health Stds	0 days	4/3/14	4/3/14	1283	Yes	Information for Health Stds
1286	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Manual/Visual Control Study: Information to HSRF	0 days	4/3/14	4/3/14	1283	Yes	Information to HSRF
1287	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Manual/Visual Control Study: Provide information to SHFE for gaps	0 days	4/3/14	4/3/14	1283	Yes	Information to other Elements
1288																						
1289	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Ability to Maintain Control Gap 5	0 days	4/3/17	4/3/17	1268FF,1272FF	Yes	Done with Gap
1290																						
1291	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**ENSURE THAT THE CREW RECEIVES ADEQUATE NUTRITION**	**6576 days?**	**10/1/07**	**10/1/25**		**No**	
1292	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Risk Factor of Inadequate Nutrition**	**5847 days?**	**10/1/07**	**10/3/23**		**No**	
1293	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Pre-Lunar Inadequate Nutrition	0 days	10/3/23	10/3/23	1321FF,1331FF	Yes	Done with Risk
1294																						
1295	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 2: (N2) Optimal dose of Vitamin D supplementation?**	**1555 days?**	**10/1/07**	**1/2/12**		**No**	
1296																						
1297	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Smith Polar Vitamin D ROI Task**	**460 days?**	**10/1/07**	**1/2/09**		**No**	
1298	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Smith Polar Vitamin D ROI	367 days?	10/1/07	10/1/08		No	
1299	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Smith Polar Vitamin D ROI Analysis	93 days?	10/2/08	1/2/09	1298	No	
1300	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Smith Polar Vitamin D ROI: Inform Med Ops of modified CM	0 days	1/2/09	1/2/09	1298	Yes	Information to HSRF
1301																						
1302	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Smith Polar Vitamin D II ROI Task**	**642 days?**	**4/1/10**	**1/2/12**		**No**	
1303	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Smith Polar Vitamin D II ROI	549 days?	4/1/10	10/1/11		No	
1304	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Smith Polar Vitamin D II ROI Analysis	93 days?	10/2/11	1/2/12	1303	No	
1305	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Smith Polar Vitamin D II ROI: Inform Med Ops of modified CM	0 days	1/2/12	1/2/12	1303	Yes	Information to HSRF
1306																						
1307	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Smith Vitamin D Dosing ROI Task**	**642 days?**	**4/1/09**	**1/2/11**		**No**	
1308	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Smith Vitamin D Dosing ROI	549 days?	4/1/09	10/1/10		No	
1309	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Smith Vitamin D Dosing ROI Analysis	93 days?	10/2/10	1/2/11	1308	No	
1310	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Smith Vitamin D Dosing ROI: Inform Med Ops of modified CM	0 days	1/2/11	1/2/11	1308	Yes	Information to HSRF
1311																						
1312	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Smith Nutrition SMO Task**	**1463 days?**	**10/1/07**	**10/2/11**		**No**	
1313	12	5	3	4	10.3	1.7	22.5	3.2	30.9	5.1	67.5	1	0 days	720 days		Smith Nutrition SMO: ISS Study	1279 days?	10/1/07	4/1/11	1314SS	No	
1314	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Smith Nutrition SMO: Initial Upmass to ISS	1 day?	10/1/07	10/1/07		No	
1315	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Smith Nutrition SMO: Analysis	184 days?	4/2/11	10/2/11	1313	No	
1316	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Smith Nutrition SMO: Information to HSRF	0 days	4/1/11	4/1/11	1313	Yes	Information to HSRF
1317	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Smith Nutrition SMO: Update SFHSS nutrition standard 0	0 days	4/1/11	4/1/11	1313	Yes	Recommend Update to Health Stds
1318	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Smith Nutrition SMO: Diet modification?	0 days	10/2/11	10/2/11	1317	Yes	Decision Point
1319	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Smith Nutrition SMO: Requirements to food system 1	0 days	10/2/11	10/2/11	1318	Yes	rements to Other Programs/Elements
1320																						
1321	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Nutrition Gap 2	0 days	1/2/12	1/2/12	1300FF,1305FF	Yes	Done with Gap
1322																						
1323	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 3: (N3) How do nutrition status / nutrition requirements change during space flight?**	**1463 days**	**10/1/07**	**10/2/11**		**No**	
1324																						
1325	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Smith Nutrition SMO (Start) 1	0 days	10/1/07	10/1/07	1312SS	Yes	Link
1326	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Smith Nutrition SMO (Finish) 1	0 days	10/2/11	10/2/11	1312FF,1325	Yes	Link
1327																						
1328	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Smith Nutrition SMO: Nutritional requirements on food system to SHFH	0 days	10/2/11	10/2/11	1326FF	Yes	rements to Other Programs/Elements
1329	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Smith Nutrition SMO: Inform SHFH about food system requirements	0 days	10/2/11	10/2/11	1326FF	Yes	rements to Other Programs/Elements
1330																						
1331	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Nutrition Gap 3	0 days	10/2/11	10/2/11	1326FF	Yes	Done with Gap
1332																						
1333	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 4: (N6) What impact does flight have on oxidative damage? (N15) Can nutrition/nutrients r**	**5847 days?**	**10/1/07**	**10/3/23**		**No**	
1334																						
1335	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Smith Nutrition SMO (Start) 5	0 days	10/1/07	10/1/07	1312SS	Yes	Link
1336	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Smith Nutrition SMO (Finish) 5	0 days	10/2/11	10/2/11	1335,1312FF	Yes	Link
1337	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Smith Nutrition SMO: Inform SHFH about food system requirements for oxidative damage	0 days	10/2/11	10/2/11	1336FF	Yes	rements to Other Programs/Elements
1338																						
1339	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Smith NEEMO Nutrition ROI Task**	**367 days?**	**10/1/07**	**10/1/08**		**No**	
1340	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Smith NEEMO Nutrition ROI	275 days?	10/1/07	7/1/08		No	
1341	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Smith NEEMO Nutrition ROI Analysis	92 days?	7/2/08	10/1/08	1340	No	
1342																						



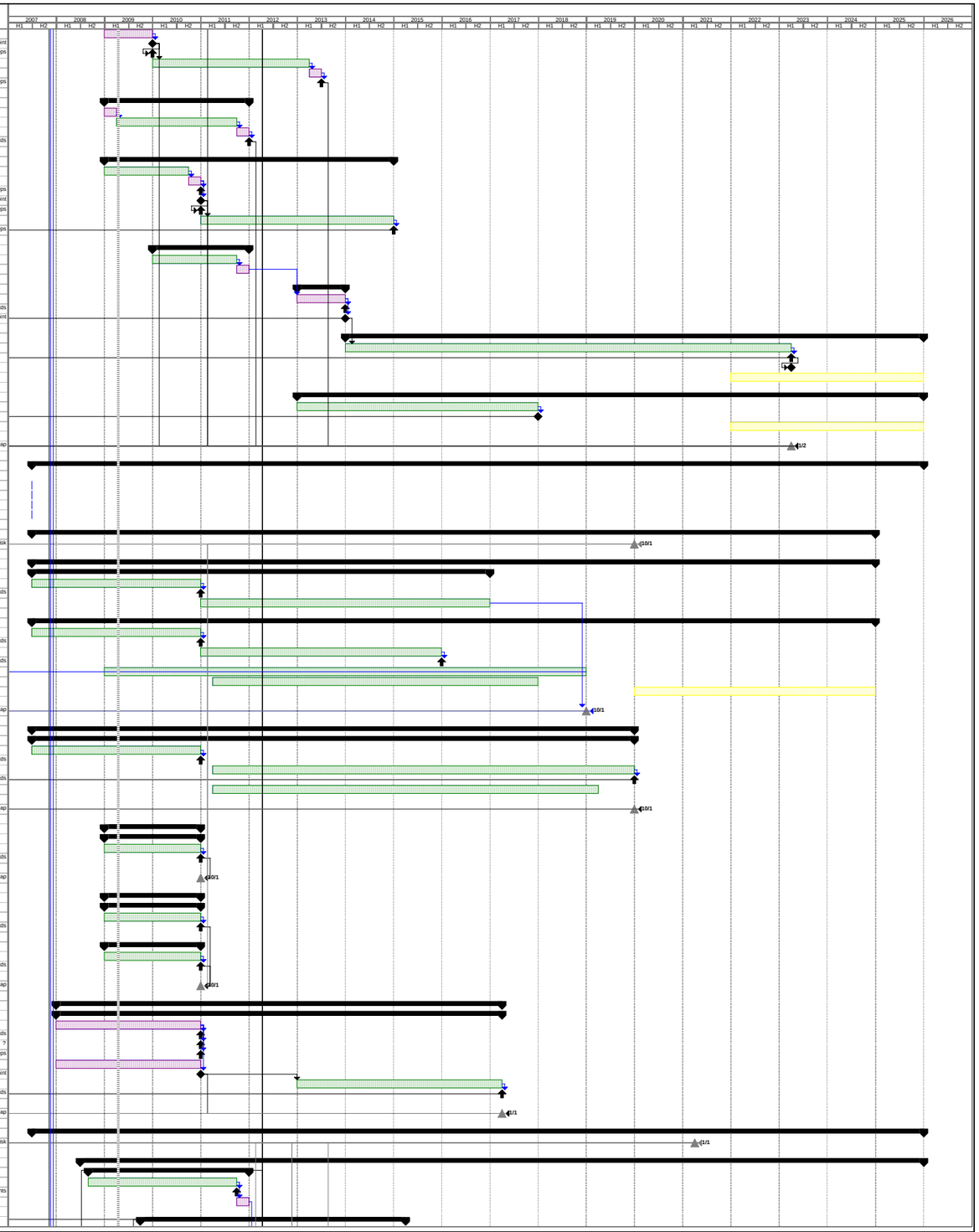
Project: IRPMonica4
Date: 1/9/09

Task | Progress | Summary | External Tasks | Deadline | Task | Task | Task | Task | External Milestone | External Milestone
Split | Milestone | Project Summary | External Milestone | Task | Task | Task | Task | Task | External Milestone

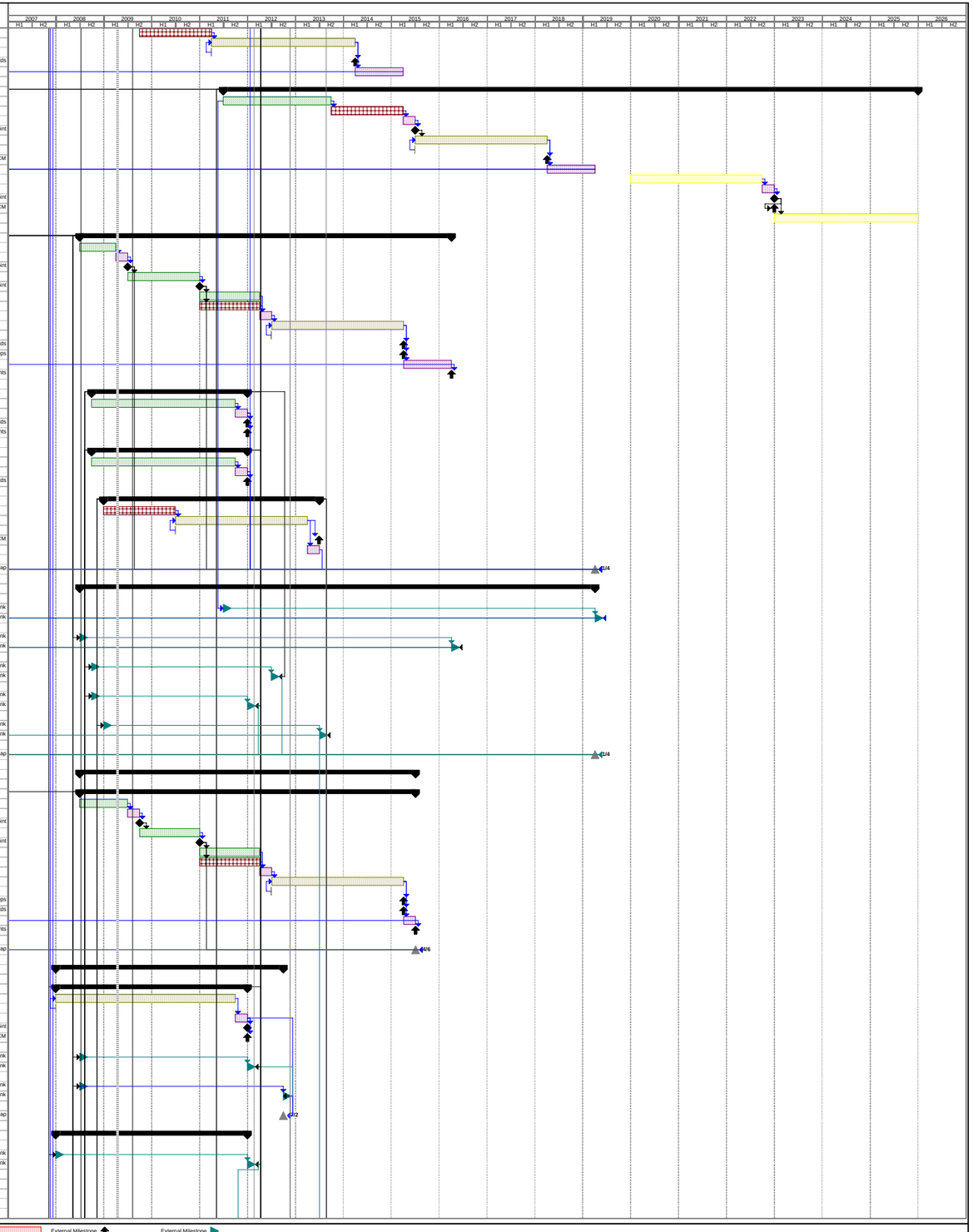
ID	Total Subjects Required	Propensity to Vounteer (1-5)	Volunteers/ Increment	Total Increments Required	Upmass/ Increment Subject	Downmass/ Increment Subject	Crew Time/ Increment Subject	BDC Time/ Increment	Upmass Increment	Downmass Increment (calc)	Crew Time/ Increment (calc)	Resources Exist?	IRP Duration	Duration ISS-Subjects Required	Resource Names	Task Name	Duration	Start	Finish	Predecessors	Milestone	Milestone Type
1343	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**NIH Oxidative Damage Task**	**5208 days?**	**7/1/09**	**10/3/23**		**No**	
1344	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		NIH Oxidative Damage: Solicitation	366 days?	7/1/09	7/1/10		No	
1345	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		NIH Oxidative Damage: Ground-based Studies Studies	1554 days?	7/2/10	10/2/14	1344	No	
1346	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		NIH Oxidative Damage: Analysis 1	93 days?	10/3/14	1/3/15	1345	No	
1347	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		NIH Oxidative Damage: Nutritional CM needed?	0 days	1/3/15	1/3/15	1346	Yes	Decision Point
1348	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		NIH Oxidative Damage: Ground-based CM Studies	1462 days?	1/4/15	1/4/19	1347	No	
1349	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		NIH Oxidative Damage Analysis 2	91 days?	1/5/19	4/5/19	1348	No	
1350	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		NIH Oxidative Damage: Select best CM	0 days	4/5/19	4/5/19	1349	Yes	Decision Point
1351	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		NIH Oxidative Damage: Flight prep	545 days	4/6/19	10/1/20	1350	No	
1352	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		NIH Oxidative Damage: Flight Validation	1004 days?	10/2/20	7/2/23	1351,1353SS	No	
1353	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		NIH Oxidative Damage: Initial Upmass to ISS	1 day	10/1/20	10/1/20		No	
1354	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		NIH Oxidative Damage: Analysis 3	93 days?	7/3/23	10/3/23	1352	No	
1355	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		NIH Oxidative Damage: Nutritional CM to prevent oxidative damage	0 days	10/3/23	10/3/23	1354	Yes	CM
1356																						
1357	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Nutrition Gap 4	0 days	10/3/23	10/3/23	1337FF,1341FF	Yes	Done with Gap
1358																						
1359	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Risk Factor of Inadequate Food System**	**6210 days?**	**10/1/08**	**10/1/25**		**No**	
1360	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Pre-lunar Food System	0 days	1/2/23	1/2/23	1392FF,1430FF	Yes	Done with Risk
1361																						
1362	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 1: AFT1: How can the food system deliver the required level of nutrition throughout the m**	**2286 days?**	**10/1/08**	**1/3/15**		**No**	
1363	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**In-suit Food for Contingency Operations**	**1190 days?**	**10/1/08**	**1/3/12**		**No**	
1364	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Food Contingency: Ground-based 1	458 days?	10/1/08	1/1/10		No	
1365	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Food Contingency: Analysis	91 days?	1/2/10	4/2/10	1364	No	
1366	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Food Contingency: Are commercially available foods available?	0 days	4/2/10	4/2/10	1365	Yes	Decision Point
1367	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Food Contingency: 1)Requirements for Consistency, Shelf-life limits, food structure (gel vs.	0 days	4/2/10	4/2/10	1365	Yes	Recommend Update to Health Stds
1368	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Food Contingency: Ground-based 2	641 days?	4/3/10	1/3/12	1366	No	
1369	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Food Contingency: Foods That Work With Delivery System For EVA Suit Config-1	0 days	1/3/12	1/3/12	1368	Yes	Informing Mission Ops
1370																						
1371	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**In-suit Food for Lunar EVA Operations**	**1191 days?**	**10/1/11**	**1/3/15**		**No**	
1372	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Food Lunar EVA: Ground-based 1	459 days?	10/1/11	1/1/13		No	
1373	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Food Lunar EVA: Analysis	91 days?	1/2/13	4/2/13	1372	No	
1374	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Food Lunar EVA: Are commercially available foods available?	0 days	4/2/13	4/2/13	1373	Yes	
1375	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Food Lunar EVA: Foods That Work With Delivery System For EVA Suit Config-2 1	0 days	4/1/13	4/1/13		Yes	Informing Mission Ops
1376	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Food Lunar EVA: Ground-based 2	641 days?	4/3/13	1/3/15	1374	No	
1377	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Food Lunar EVA: Foods That Work With Delivery System For EVA Suit Config-2 2	0 days	1/3/15	1/3/15	1376	Yes	Informing Mission Ops
1378																						
1379	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Effect of Processing on Nutritional Content of Food**	**1827 days?**	**10/1/08**	**10/1/13**		**No**	
1380	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Processing: Ground-based Study	1827 days?	10/1/08	10/1/13		No	
1381	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Processing: Analysis	1827 days?	10/1/08	10/1/13	1380SS	No	
1382	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Processing: Provide nutritional content post-processing and after 1 and 3 years to NxPCM	0 days	10/1/13	10/1/13	1380	Yes	Information to other Elements
1383	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Processing: Are nutrients stable?	0 days	10/1/13	10/1/13	1380	Yes	Decision Point
1384	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Processing: Food with nutrients that remain stable for the mission duration.	0 days	10/1/13	10/1/13	1380	Yes	Informing Mission Ops
1385																						
1386	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Stability SMO**	**275 days?**	**10/1/08**	**7/2/09**		**No**	
1387	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Stability SMO: ISS	183 days?	10/1/08	4/1/09		No	
1388	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Stability SMO: Analysis 1	92 days?	4/2/09	7/2/09	1387	No	
1389	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Stability SMO: Are nutrients stable?	0 days	7/2/09	7/2/09	1388	Yes	Decision Point
1390	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Stability SMO: Food with nutrients that remain stable for the mission duration.	0 days	7/2/09	7/2/09	1389	Yes	Informing Mission Ops
1391																						
1392	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Food System Gap 1	0 days	10/1/13	10/1/13	1367FF,1375FF	Yes	Done with Gap
1393																						
1394	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 2: AFT2: How can the nutrition and acceptability of the food system be maintained throug**	**5115 days?**	**10/1/08**	**10/2/22**		**No**	
1395																						
1396	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Thermostabilized Shelf-life:**	**367 days?**	**10/1/08**	**10/2/09**		**No**	
1397	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Thermostabilized Shelf-life:	274 days?	10/1/08	7/1/09		No	
1398	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Thermostabilized Shelf-life: Analysis	93 days?	7/2/09	10/2/09	1397	No	
1399	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Thermostabilized Shelf-life: Are nutrients stable?	0 days	10/2/09	10/2/09	1398	Yes	Decision Point
1400	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Thermostabilized Shelf-life: Food with nutrients that maintain stability for the mission duratic	0 days	10/2/09	10/2/09	1399	Yes	Informing Mission Ops
1401																						
1402	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**DoD Collaboration:**	**5115 days?**	**10/1/08**	**10/2/22**		**No**	
1403	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		DoD Collaboration: Advanced Packaging Dev.	1462 days?	10/1/08	10/1/12		No	
1404	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		DoD Collaboration: Advanced packaging technologies adequate? 1	0 days	10/1/12	10/1/12	1403	Yes	Decision Point
1405	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		DoD Collaboration: Inform Mission ops on viable technologies to meet long-duration packa	0 days	10/1/12	10/1/12	1404	Yes	Informing Mission Ops
1406	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		DoD Collaboration: Further Packaging Dev.	1097 days?	10/1/13	10/1/16	1404	No	
1407	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		DoD Collaboration: Advanced packaging technologies adequate? 2	0 days	10/1/16	10/1/16	1406	Yes	Decision Point
1408	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		DoD Collaboration: Inform Mission ops on viable technologies to meet long-duration packa	0 days	10/1/16	10/1/16	1407	Yes	Informing Mission Ops
1409	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		DoD Collaboration: TBD 1	2192 days?	10/2/16	10/2/22	1407	No	
1410	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		DoD Collaboration: Advanced Preservation Dev	1462 days?	10/1/08	10/1/12		No	
1411	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		DoD Collaboration: Advanced preservation technologies adequate? 3	0 days	10/1/12	10/1/12	1410	Yes	Decision Point
1412	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		DoD Collaboration: Inform Mission ops on food menu items that meet long-duration shelf-life	0 days	10/1/12	10/1/12	1411	Yes	Informing Mission Ops
1413	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		DoD Collaboration: Formulation Options	1097 days?	10/1/13	10/1/16	1411	No	
1414	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		DoD Collaboration: Formulation options adequate?	0 days	10/1/16	10/1/16	1413	Yes	Decision Point
1415	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		DoD Collaboration: Inform Mission ops on food menu items that meet long-duration shelf-life	0 days	10/1/16	10/1/16	1414	Yes	Informing Mission Ops
1416	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		DoD Collaboration: TBD 2	2192 days?	10/2/16	10/2/22	1414	No	
1417																						
1418	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Effect of Space Radiation on Shelf Life**	**3289 days?**	**4/1/09**	**4/2/18**		**No**	
1419	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Radiation & Shelf Life: Evidence Gathering	549 days?	4/1/09	10/1/10		No	
1420	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Radiation & Shelf Life: Evidence of no radiation effect?	0 days	10/1/10	10/1/10	1419	Yes	Decision Point
1421	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Radiation & Shelf Life: Inform Mission ops that no effect of radiation on food quality 1	0 days	10/1/10	10/1/10	1420	Yes	Informing Mission Ops
1422	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Radiation & Shelf Life: Radiation Stability Study	1005 days?	10/1/11	7/1/14	1420	No	
1423	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Radiation & Shelf Life: Radiation Stability Study Analysis	93 days?	7/2/14	10/2/14	1422	No	
1424	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Radiation & Shelf Life: Radiation effect on food quality?	0 days	10/2/14	10/2/14	1423	Yes	Decision Point
1425	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Radiation & Shelf Life: Inform Mission ops that no effect of radiation on food quality 2	0 days	10/2/14	10/2/14	1424	Yes	Informing Mission Ops
1426	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Radiation & Shelf Life: Countermeasure Development	1007 days?	4/1/15	1/1/18	1424	No	
1427	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Radiation & Shelf Life: Countermeasure Development Analysis	91 days?	1/2/18	4/2/18	1426	No	
1428	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Radiation & Shelf Life: Food with nutrients that remain stable for the mission duration.	0 days	4/2/18	4/2/18	1427	Yes	Informing Mission Ops
1429																						
1430	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Food System Gap 2	0 days	4/2/18	4/2/18	1400FF,1428FF	Yes	Done with Gap
1431																						
1432	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 3: AFT3: How can the acceptability of the food system be maintained throughout the miss**	**1463 days?**	**10/1/10**	**10/2/14**		**No**	
1433																						
1434																						
1435	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Sensory Qualities in Microgravity**	**1463 days?**	**10/1/10**	**10/2/14**		**No**	
1436	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sensory Qualities: Ground based Study	1370 days?	10/1/10	7/1/14		No	
1437	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sensory Qualities: Ground based Study Analysis	93 days?	7/2/14	10/2/14	1436	No	
1438	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Food system requirements for long duration operations.	0 days	10/2/14	10/2/14	1437,1442,1446	Yes	Recommend Update to Health Stds
1439																						
1440	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Variety, Acceptability, and Usability Requirements Development**	**1463 days?**	**10/1/10**	**10/2/14**		**No**	
1441	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Requirements Development: Ground based Study	1370 days?	10/1/10	7/1/14		No	
1442	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Requirements Development: Ground based Study Analysis	93 days?	7/2/14	10/2/14	1441	No	
1443																						
1444	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Psychosocial Requirements On Food Operations (Eating Together; Holiday Foods, etc)**	**1463 days?**	**10/1/10**	**10/2/14**		**No**	
1445	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Psychosocial Requirements: Ground based Study	1370 days?	10/1/10	7/1/14		No	
1446	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Psychosocial Requirements: Ground based Study Analysis	93 days?	7/2/14	10/2/14	1445	No	
1447																						
1448	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Food System Gap 3	0 days	10/2/14	10/2/14	1438FF	Yes	Done with Gap
1449																						
1450	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 4: AFT4: What technologies can be developed that will efficiently balance appropriate veh**	**6210 days?**	**10/1/08**	**10/1/25**		**No**	
1451																						
1452	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Advanced Packaging Material Development**	**2286 days?**	**10/1/08**	**1/3/15**		**No**	
1453	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Advanced Packaging: Comparative Packaging Study	639 days?	10/1/08	7/1/10		No	
1454	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Advanced Packaging: Comparative Packaging Study Analysis	93 days?	7/2/10	10/2/10	1453	No	
1455	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Advanced Packaging: Are any of these materials adequate for long duration missions?	0 days	10/2/10	10/2/10	1454	Yes	Decision Point
1456	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Advanced Packaging: Food packaging technologies for Lunar mission design 1	0 days	10/2/10	10/2/10	1455	Yes	Informing Mission Ops
1457	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Advanced Packaging: External Research	1554 days?	10/3/10	1/3/15	1455	No	
1458	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Advanced Packaging: Food packaging technologies for Lunar mission design 2	0 days	1/3/15	1/3/15	1457	Yes	Informing Mission Ops
1459	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Advanced Packaging: SBIR Phase II	1096 days?	10/1/08	10/1/11		No	
1460	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Advanced Packaging: SBIR Phase II Analysis	275 days?	10/2/11	7/2/12	1459	No	
1461	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Advanced Packaging: Are any of these technologies adequate for long duration missions?	0 days	7/2/12	7/2/12	1460	Yes	
1462	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Advanced Packaging: Food packaging technologies for Lunar mission design 3	0 days	7/2/12	7/2/12	1461	Yes	Informing Mission Ops
1463																						
1464	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Packaged Food Mass Reduction Trade Study**	**1646 days?**	**10/1/08**	**4/3/13**		**No**	



ID	Total Subjects Required	Propensity to Vounteer (1-5)	Volunteers/ Increment	Total Increments Required	Upmass/ Increment Subject	Downmass/ Increment Subject	Crew Time/ Increment Subject	BDC Time/ Increment	Jpmass Icremer	Downmass Increment (calc)	Crew Time/ Increment (calc)	Resources Exist?	IRP Duration	Duration ISS-Subjects Required	Resource Names	Task Name	Duration	Start	Finish	Predecessors	Milestone	Milestone Type
1465	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Mass Reduction: Trade Study	366 days?	10/1/08	10/1/09		No	
1466	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Mass Reduction: Can mass be reduced with available technologies?	0 days	10/1/09	10/1/09	1465	Yes	Decision Point
1467	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Mass Reduction: Mass and volume of Orion food system	0 days	10/1/09	10/1/09	1466	Yes	Informing Mission Ops
1468	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Mass Reduction: Ground-based Study	1189 days?	10/2/09	1/2/13	1466	No	
1469	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Mass Reduction: Ground-based Study Analysis	91 days?	1/3/13	4/3/13	1468	No	
1470	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Mass Reduction: Solutions that reduce the mass and volume of food	0 days	4/3/13	4/3/13	1469	Yes	Informing Mission Ops
1471																						
1472	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Total System Approach to Packaging Material Selection**	**1098 days?**	**10/1/08**	**10/3/11**		**No**	
1473	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		System Approach to Packaging: Analysis 1	93 days?	10/1/08	1/1/09		No	
1474	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		System Approach to Packaging: Ground-based Study	912 days?	1/2/09	7/2/11	1473	No	
1475	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		System Approach to Packaging: Analysis 2	93 days?	7/3/11	10/3/11	1474	No	
1476	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		System Approach to Packaging: Overarching processing and packaging requirements that	0 days	10/3/11	10/3/11	1475	Yes	Recommend Update to Health Stds
1477																						
1478	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Bulk Overwrap Packaging Alternative**	**2194 days?**	**10/1/08**	**10/3/14**		**No**	
1479	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Packaging Alternative: Ground-based Study 1	639 days?	10/1/08	7/1/10		No	
1480	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Packaging Alternative: Ground-based Study Analysis	93 days?	7/2/10	10/2/10	1479	No	
1481	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Packaging Alternative: Alternative for hard container that protects food	0 days	10/2/10	10/2/10	1480	Yes	Informing Mission Ops
1482	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Packaging Alternative: Are these alternatives adequate for lunar missions?	0 days	10/2/10	10/2/10	1480	Yes	Decision Point
1483	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Packaging Alternative: Bulk packaging technologies for Lunar and Mars missions 1	0 days	10/2/10	10/2/10	1482	Yes	Informing Mission Ops
1484	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Packaging Alternative: Ground-based Study 2	1462 days?	10/3/10	10/3/14	1482	No	
1485	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Packaging Alternative: Bulk packaging technologies for Lunar and Mars missions 2	0 days	10/3/14	10/3/14	1484	Yes	Informing Mission Ops
1486																						
1487	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Partial pressure effects on food processing and preparation**	**732 days**	**10/1/09**	**10/2/11**		**No**	
1488	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Partial pressure effects: Ground-based Study	639 days	10/1/09	7/1/11		No	
1489	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Partial pressure effects: Ground-based Study Analysis	93 days	7/2/11	10/2/11	1488	No	
1490																						
1491	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Food Processing vs.Packaged Food System**	**366 days?**	**10/1/12**	**10/1/13**		**No**	
1492	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Processing vs.Packaged: Trade Study	366 days?	10/1/12	10/1/13	1489	No	
1493	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Processing vs.Packaged: Requirements on Lunar Outpost Food System Regarding Food P	0 days	10/1/13	10/1/13	1492	Yes	Recommend Update to Health Stds
1494	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Processing vs.Packaged: Should the lunar food system include food prep or proc?	0 days	10/1/13	10/1/13	1492	Yes	Decision Point
1495																						
1496	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Develop processing and Preparation Equipment and Procedures**	**4383 days?**	**10/2/13**	**10/1/25**		**No**	
1497	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Preparation Equipment: Design, build and test equipment and develop procedures	3380 days?	10/2/13	1/2/23	1494	No	
1498	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Preparation Equipment: Food System Processing Technologies for Lunar Outpost Long-du	0 days	1/2/23	1/2/23	1497	Yes	
1499	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Preparation Equipment: Should the lunar food system include food prep or proc?	0 days	1/2/23	1/2/23	1498	Yes	
1500	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Preparation Equipment: Lunar Validation Studies	1462 days?	10/1/21	10/1/25		No	
1501																						
1502	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Vegetable Growth**	**4749 days?**	**10/1/12**	**10/1/25**		**No**	
1503	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Vegetable Growth: Handling and growth	1827 days?	10/1/12	10/1/17		No	
1504	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Vegetable Growth: Should the lunar food system include fresh veg and fruit growth?	0 days	10/1/17	10/1/17	1503	Yes	
1505	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Vegetable Growth: Lunar Validation Studies	1462 days?	10/1/21	10/1/25		No	
1506																						
1507	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Food System Gap 4	0 days	1/2/23	1/2/23	1458FF,1470FF	Yes	Done with Gap
1508																						
1509	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**PROTECT THE CREW FROM ENVIRONMENTAL HAZARDS**	**6761 days?**	**4/1/07**	**10/3/25**		**No**	
1510																						
1511	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Risk of Radiation Carcinogenesis	1 day?	4/1/07	4/1/07		No	
1512	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Risk of Acute Radiation Syndromes Due to Solar Particle Events	1 day?	4/1/07	4/1/07		No	
1513	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Risk of Acute or Late Central Nervous System Affects from Radiation Exposure	1 day?	4/1/07	4/1/07		No	
1514	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Risk of Degenerative Tissue or other Health Effects from Radiation Exposure	1 day?	4/1/07	4/1/07		No	
1515																						
1516	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Risk of Adverse Health Effects From Lunar Dust Exposure**	**6394 days?**	**4/1/07**	**10/1/24**		**No**	
1517	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Pre-Lunar Dust	0 days	10/1/19	10/1/19	1534FF,1544FF	Yes	Done with Risk
1518																						
1519	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 1: AEH1: What are the unique properties of the lunar dust that affect physiology?**	**6394 days?**	**4/1/07**	**10/1/24**		**No**	
1520	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Dust Size Factor Study**	**3472 days?**	**4/1/07**	**10/1/16**		**No**	
1521	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Dust Size Factor Study: Determine Dust Size Distribution Factor	1280 days?	4/1/07	10/1/10		No	
1522	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Dust Size Factor Study:	0 days	10/1/10	10/1/10	1521	Yes	Updating Health Stds
1523	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Dust Size Factor Study: Study variations in toxicity Of various types/locations of lunar dust	2193 days?	10/1/10	10/1/16		No	
1524																						
1525	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Activation Factor Study**	**6394 days?**	**4/1/07**	**10/1/24**		**No**	
1526	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Activation Factor Study: Determine Lunar Dust Activation Factors	1280 days?	4/1/07	10/1/10		No	
1527	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Activation Factor Study: 1	0 days	10/1/10	10/1/10	1526	Yes	Updating Health Stds
1528	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Activation Factor Study: Develop monitoring requirements	1827 days?	10/1/10	10/1/15		No	
1529	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Activation Factor Study: 2	0 days	10/1/15	10/1/15	1528	Yes	Updating Health Stds
1530	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Activation Factor Study: Interact with Robotic Missions Determine what experiments to perf	3653 days?	10/1/08	10/1/18		No	
1531	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Activation Factor Study: Study methods and mechanisms of Lunar surface deactivation	2466 days?	1/1/11	10/1/17		No	
1532	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Activation Factor Study: Surface Testing of Lunar Dust	1828 days?	10/1/19	10/1/24		No	
1533																						
1534	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Lunar Dust Gap 1	0 days	10/1/18	10/1/18	1530FF,1523	Yes	Done with Gap
1535																						
1536	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 2: AEH2: What is the toxicity of respired lunar dust in the respiratory system?**	**4567 days?**	**4/1/07**	**10/1/19**		**No**	
1537	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Inhalation Toxicity and Intratracheal Instillation Testing**	**4567 days?**	**4/1/07**	**10/1/19**		**No**	
1538	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Inhalation Toxicity: Inhalation Toxicity and Intratracheal Instillation Tests	1280 days?	4/1/07	10/1/10		No	
1539	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Inhalation Toxicity: Data used as input to AEH5 To produce update to The Permissible Expo	0 days	10/1/10	10/1/10	1538	Yes	Updating Health Stds
1540	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Inhalation Toxicity: Improve insight into presence of nano-sized Lunar dust particles	3196 days?	1/1/11	10/1/19		No	
1541	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Inhalation Toxicity:	0 days	10/1/19	10/1/19	1540	Yes	Updating Health Stds
1542	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Inhalation Toxicity: Examine issues specific to Short Sleeve ops of rovers	2923 days?	1/1/11	1/1/19		No	
1543																						
1544	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Lunar Dust Gap 2	0 days	10/1/19	10/1/19	1541FF	Yes	Done with Gap
1545																						
1546	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 3: AEH3: What is the mode of action of lunar dust at the respiratory cellular level?**	**731 days?**	**10/1/08**	**10/1/10**		**No**	
1547	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Lunar cell culture toxicity testing**	**731 days?**	**10/1/08**	**10/1/10**		**No**	
1548	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lunar cell culture toxicity testing: Active vs. non-active dust; reactive oxygen species tested	731 days?	10/1/08	10/1/10		No	
1549	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lunar cell culture toxicity testing: Contributes to the determination of both dose and activati	0 days	10/1/10	10/1/10	1548	Yes	Updating Health Stds
1550																						
1551	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Lunar Dust Gap 3	0 days	10/1/10	10/1/10	1549FF	Yes	Done with Gap
1552																						
1553	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 4: AEH4: What is the dermal and ocular toxicity of lunar dust?**	**731 days?**	**10/1/08**	**10/1/10**		**No**	
1554	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Dermal toxicity testing**	**731 days?**	**10/1/08**	**10/1/10**		**No**	
1555	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Dermal toxicity testing: Lab. Studies	731 days?	10/1/08	10/1/10		No	
1556	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Dermal toxicity testing:	0 days	10/1/10	10/1/10	1555	Yes	Updating Health Stds
1557																						
1558	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Ocular toxicity testing**	**731 days?**	**10/1/08**	**10/1/10**		**No**	
1559	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Ocular toxicity testing: Lab. Studies	731 days?	10/1/08	10/1/10		No	
1560	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Ocular toxicity testing:	0 days	10/1/10	10/1/10	1559	Yes	Updating Health Stds
1561																						
1562	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Lunar Dust Gap 4	0 days	10/1/10	10/1/10	1560FF,1556FF	Yes	Done with Gap
1563																						
1564	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 5: AEH5: What are the permissible exposure limits for inhalation of lunar dust?**	**3381 days?**	**10/1/07**	**1/1/17**		**No**	
1565	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**LADTAG final recommendation of Lunar Dust Health Standards**	**3381 days?**	**10/1/07**	**1/1/17**		**No**	
1566	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		LADTAG recommendation: Synthesize Data from Gaps AEH1-4	1097 days?	10/1/07	10/1/10		No	
1567	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		LADTAG recommendation: Standard Update for Permissible Exposure Limit To Lunar Dust	0 days	10/1/10	10/1/10	1566	Yes	Updating Health Stds
1568	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		LADTAG recommendation: Standard Update for Permissible Exposure Limit To Lunar Dust	0 days	10/1/10	10/1/10	1566	Yes	?
1569	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		LADTAG recommendation: Update HSIR	0 days	10/1/10	10/1/10	1566	Yes	Informing Mission Ops
1570	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		LADTAG recommendation: Data from AEH4 will Be analyzed.	1097 days?	10/1/07	10/1/10		No	
1571	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		LADTAG recommendation: Validation Necessary in Lunar Ops Phase?	0 days	10/1/10	10/1/10	1566	Yes	Decision Point
1572	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		LADTAG recommendation: Follow-on validation and optimization for Mars mission in lunar	1554 days?	10/1/12	1/1/17	1571	No	
1573	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		LADTAG recommendation:	0 days	1/1/17	1/1/17	1572	Yes	Updating Health Stds
1574																						
1575	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Lunar Dust Gap 5	0 days	1/1/17	1/1/17	1573FF,1571FF	Yes	Done with Gap
1576																						
1577	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6510 days**	**0 days**		**Risk of Accelerated Osteoporosis**	**6761 days?**	**4/1/07**	**10/3/25**		**No**	
1578	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Pre-lunar Accelerated Osteoporosis	0 days	1/1/21	1/1/21	1642FF,1661FF	Yes	Done with Risk
1579																						
1580	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6510 days**	**0 days**		**Gap 1: (B1) Is bone strength completely recovered with recovery of BMD?**	**6395 days?**	**4/1/08**	**10/3/25**		**No**	
1581	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Hogan Bone Recovery Task**	**1219 days?**	**6/1/08**	**10/2/11**		**No**	
1582	0	0	0	#ERROR	0	0	0	0	0	0	0	0	913 days	913 days		Hogan Bone Recovery Study: Hind limb unloading model	1126 days	6/1/08	7/1/11		No	
1583	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Hogan Bone Recovery Study: Information to help close the gaps	0 days	7/1/11	7/1/11	1582	Yes	Information to other Elements
1584	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Hogan Bone Recovery Study: Analysis	93 days?	7/2/11	10/2/11	1582	No	
1585																						
1586	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**LeBlanc/Lang Bone Recovery Task**	**2011 days?**	**7/1/09**	**1/1/15**		**No**	



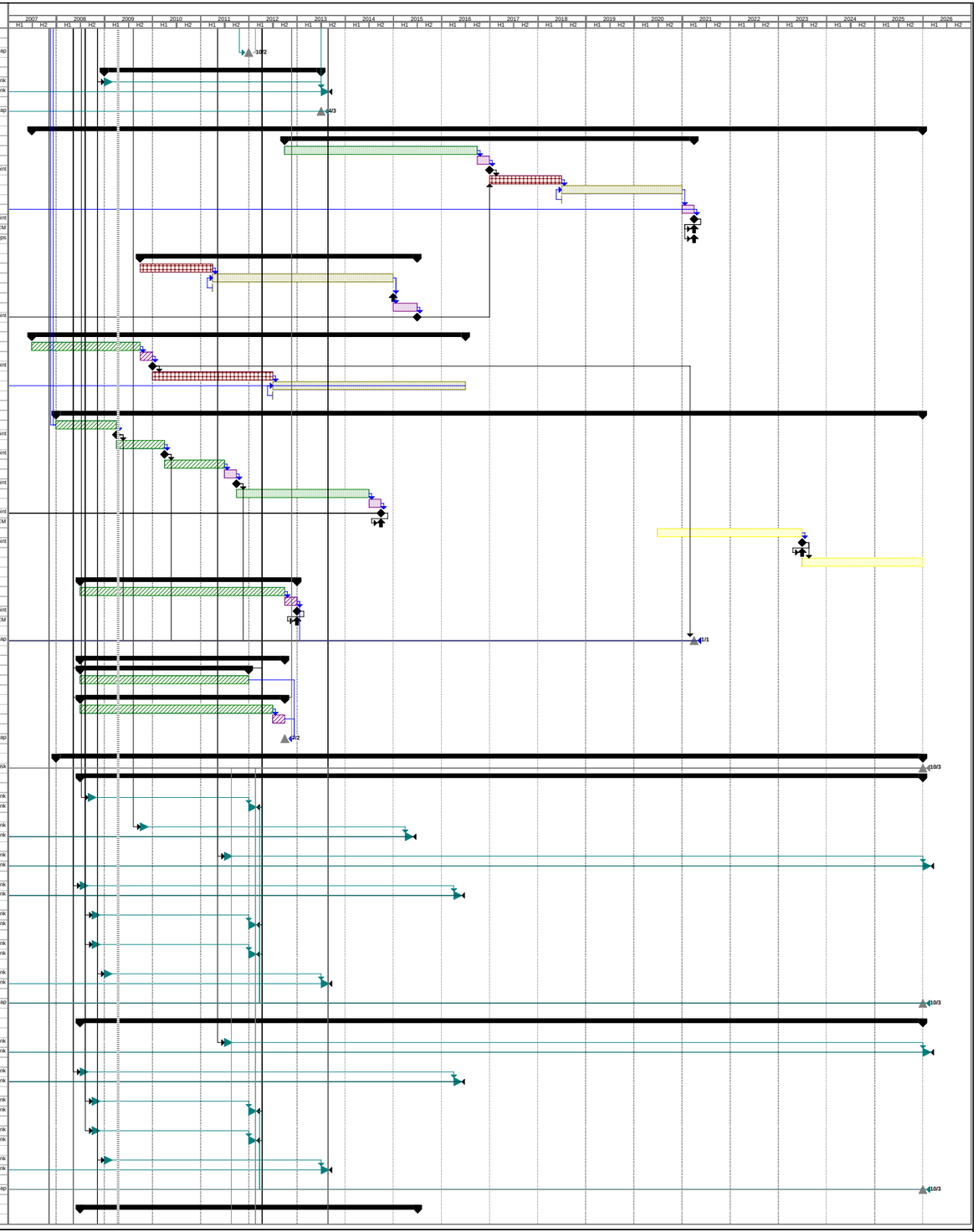
ID	Total Subjects Required	Propensity to Vounteer (1-5)	Volunteers/ Increment	Total Increments Required	Upmass/ Increment Subject	Downmass/ Increment Subject	Crew Time/ Increment Subject	BDC Time/ Increment	Jpmass Icremer	Downmass Increment (calc)	Crew Time/ Increment (calc)	Resources Exist?	IRP Duration	Duration ISS-Subjects Required	Resource Names	Task Name	Duration	Start	Finish	Predecessors	Milestone	Milestone Type
1587	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		LeBlanc/Lang Bone Recovery Study: Flight Prep	550 days?	7/1/09	1/1/11		No	
1588	12	5	3	4	0	0	0	0	0	0	0	1	0 days	720 days		LeBlanc/Lang Bone Recovery Study: Pre/post	1096 days?	1/2/11	1/1/14	1589SS,1587	No	
1589	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		LeBlanc/Lang Bone Recovery Study: Initial Upmass to ISS	1 day?	1/1/11	1/1/11		No	
1590	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		LeBlanc/Lang Bone Recovery Study: Information for Health Stds	0 days	1/1/14	1/1/14	1588	Yes	Information for Health Stds
1591	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		LeBlanc/Lang Bone Recovery Study: Analysis	365 days?	1/2/14	1/1/15	1588	No	
1592																						
1593	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Bone CM TBD Task**	**5300 days?**	**4/1/11**	**10/3/25**		**No**	
1594	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Bone CM study: CM Studies	823 days?	4/1/11	7/1/13		No	
1595	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Bone CM study: Flight Prep	550 days?	7/2/13	1/2/15	1594	No	
1596	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Bone CM study: Analysis	91 days?	1/3/15	4/3/15	1595	No	
1597	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Bone CM study: Select best CM	0 days	4/3/15	4/3/15	1596	Yes	Decision Point
1598	12	5	3	4	10.3	1.44	29.5	8	30.9	4.32	88.5	1	0 days	720 days		Bone CM study: Flight Validation	1007 days?	4/4/15	1/4/18	1597,1599SS	No	
1599	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Bone CM study: TBD Initial Upmass to ISS	1 day?	4/1/15	4/1/15		No	
1600	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Bone CM study: Nut. Phys &/or Pharm CM to facilitate bone recovery after exploration missi	0 days	1/4/18	1/4/18	1598	Yes	CM
1601	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Bone CM study: Flight Analysis	365 days?	1/5/18	1/4/19	1598	No	
1602	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Bone CM study: Lunar Study N=12	1005 days?	10/1/19	7/1/22		No	
1603	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Bone CM study: Lunar Study Analysis	93 days?	7/2/22	10/2/22	1602	No	
1604	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Bone CM study: Are ug CM adequate?	0 days	10/2/22	10/2/22	1603	Yes	Decision Point
1605	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Bone CM study: Nut. Phys &/or Pharm CM to mitigate risk; validated for lunar g	0 days	10/2/22	10/2/22	1604	Yes	CM
1606	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Bone CM study: Lunar CM Studies	1097 days?	10/3/22	10/3/25	1604	No	
1607																						
1608	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Clarke Bone Loss Marker in Sweat Task**	**2836 days?**	**4/1/08**	**1/5/16**		**No**	
1609	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Clarke Bone Loss Marker in Sweat: Study	276 days?	4/1/08	1/1/09		No	
1610	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Clarke Bone Loss Marker in Sweat: Analysis	91 days?	1/2/09	4/2/09	1609	No	
1611	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Clarke Bone Loss Marker in Sweat: Validate in HDT Bed Rest?	0 days	4/2/09	4/2/09	1610	Yes	Decision Point
1612	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Clarke Bone Loss Marker in Sweat: Bed Rest N=12	549 days?	4/3/09	10/3/10	1611	No	
1613	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Clarke Bone Loss Marker in Sweat: Validate in flight?	0 days	10/3/10	10/3/10	1612	Yes	Decision Point
1614	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Clarke Bone Loss Marker in Sweat: Bed Rest continued	457 days?	10/4/10	1/3/12	1613	No	
1615	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Clarke Bone Loss Marker in Sweat: Flight Prep	457 days?	10/4/10	1/3/12	1613	No	
1616	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Clarke Bone Loss Marker in Sweat: Bed Rest Analysis	92 days?	1/4/12	4/4/12	1614,1615	No	
1617	12	5	3	4	3.33	0	10	0.5	9.99	0	30	1	0 days	720 days		Clarke Bone Loss Marker in Sweat: Flight Validation	1006 days?	4/5/12	1/5/15	1616,1618SS	No	
1618	0	0	0	#ERROR	10	0	0	0	0	0	0	1	0 days	0 days		Clarke Bone Loss Marker in Sweat: Initial Upmass to ISS	1 day?	4/1/12	4/1/12		No	
1619	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Clarke Bone Loss Marker in Sweat: Information for Health Stds	0 days	1/5/15	1/5/15	1617	Yes	Information for Health Stds
1620	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Clarke Bone Loss Marker in Sweat: Informing Mission Ops	0 days	1/5/15	1/5/15	1617	Yes	Informing Mission Ops
1621	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Clarke Bone Loss Marker in Sweat: Flight Analysis	365 days?	1/6/15	1/5/16	1617	No	
1622	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Clarke Bone Loss Marker in Sweat: Pass data to ExMC Gap 4.06	0 days	1/5/16	1/5/16	1621	Yes	Information to other Elements
1623																						
1624	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Amin Epidemiologic Analysis Task**	**1189 days?**	**7/1/08**	**10/2/11**		**No**	
1625	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Amin Epidemiologic Analysis Study	1096 days?	7/1/08	7/1/11		No	
1626	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Amin Epidemiologic Analysis Study: Analysis	93 days?	7/2/11	10/2/11	1625	No	
1627	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Amin Epidemiologic Analysis Study: Pass data to SD Conditions List	0 days	10/2/11	10/2/11	1626	Yes	Information for Health Stds
1628	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Amin Epidemiologic Analysis Study: Information to help close the gaps	0 days	10/2/11	10/2/11	1626	Yes	Information to other Elements
1629																						
1630	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Judex Bone Recovery Task**	**1189 days?**	**7/1/08**	**10/2/11**		**No**	
1631	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Judex Bone Recovery Study: HU Model	1096 days?	7/1/08	7/1/11		No	
1632	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Judex Bone Recovery Study: Analysis	93 days?	7/2/11	10/2/11	1631	No	
1633	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Judex Bone Recovery Study: Information to other Elements	0 days	10/2/11	10/2/11	1632	Yes	Information for Health Stds
1634																						
1635	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Smith Pro K Task**	**1646 days?**	**10/1/08**	**4/3/13**		**No**	
1636	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Smith Pro K Study: Flight Prep	548 days?	10/1/08	4/1/10		No	
1637	12	5	3	4	10.3	1.5	29.33	8	30.9	4.5	87.99	1	0 days	720 days		Smith Pro K Study: ISS Study N=12	1007 days?	4/2/10	1/2/13	1638SS,1636	No	
1638	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Smith Pro K Study: Initial Upmass to ISS	1 day?	4/1/10	4/1/10		No	
1639	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Smith Pro K Study: Nutritional CM to mitigate risk	0 days	4/1/13	4/1/13	1637	Yes	CM
1640	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Smith Pro K Study: Analysis	91 days?	1/3/13	4/3/13	1637	No	
1641																						
1642	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Osteo Gap 1	0 days	1/4/19	1/4/19	1640FF,1632FF	Yes	Done with Gap
1643																						
1644	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 2: (B10) Time-course of bone degradation during missions?**	**3931 days**	**4/1/08**	**1/4/19**		**No**	
1645																						
1646	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Bone CM study TBD (Start) 1	0 days	4/1/11	4/1/11	1594SS	Yes	Link
1647	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Bone CM study TBD (Finish) 1	0 days	1/4/19	1/4/19	1646,1601FF	Yes	Link
1648																						
1649	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Clarke Bone Loss Marker in Sweat (Start) 1	0 days	4/1/08	4/1/08	1608SS	Yes	Link
1650	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Clarke Bone Loss Marker in Sweat (Finish) 1	0 days	1/5/16	1/5/16	1608FF,1649	Yes	Link
1651																						
1652	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Amin Epidemiologic Analysis (Start) 1	0 days	7/1/08	7/1/08	1624SS	Yes	Link
1653	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Amin Epidemiologic Analysis (Finish) 1	0 days	4/1/12	4/1/12	1624FF,1652	Yes	Link
1654																						
1655	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Judex Bone Recovery (Start) 1	0 days	7/1/08	7/1/08	1630SS	Yes	Link
1656	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Judex Bone Recovery (Finish) 1	0 days	10/2/11	10/2/11	1630FF,1655	Yes	Link
1657																						
1658	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Smith Pro K (Start) 1	0 days	10/1/08	10/1/08	1635SS	Yes	Link
1659	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Smith Pro K(Finish) 1	0 days	4/3/13	4/3/13	1635FF,1658	Yes	Link
1660																						
1661	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Osteo Gap 2	0 days	1/4/19	1/4/19	1659FF,1656FF	Yes	Done with Gap
1662																						
1663	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 3: (N5) Can a single test monitor net bone Ca+ changes?**	**2562 days?**	**4/1/08**	**4/6/15**		**No**	
1664																						
1665	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Anbar Calcium Isotope Task**	**2562 days?**	**4/1/08**	**4/6/15**		**No**	
1666	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Anbar Calcium Isotope Study:	366 days?	4/1/08	4/1/09		No	
1667	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Anbar Calcium Isotope Analysis	92 days?	4/2/09	7/2/09	1666	No	
1668	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Anbar Calcium Isotope : Validate in HDT Bed Rest?	0 days	7/2/09	7/2/09	1667	Yes	Decision Point
1669	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Anbar Calcium Isotope Bed Rest N=12	458 days?	7/3/09	10/3/10	1668	No	
1670	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Anbar Calcium Isotope : Validate in flight?	0 days	10/3/10	10/3/10	1669	Yes	Decision Point
1671	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Anbar Calcium Isotope: Bed Rest continued	457 days?	10/4/10	1/3/12	1670	No	
1672	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Anbar Calcium Isotope: Flight Prep	457 days?	10/4/10	1/3/12	1670	No	
1673	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Anbar Calcium Isotope: Analysis	92 days?	1/4/12	4/4/12	1671,1672	No	
1674	12	5	3	4	0	1	0	0.5	0	3	0	1	0 days	720 days		Anbar Calcium Isotope: Flight Validation	1006 days?	4/5/12	1/5/15	1675SS,1673	No	
1675	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Anbar Calcium Isotope: Initial Upmass to Iss	1 day?	4/1/12	4/1/12		No	
1676	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Anbar Calcium Isotope : Informing Mission Ops	0 days	1/5/15	1/5/15	1674	Yes	Informing Mission Ops
1677	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Anbar Calcium Isotope: Information for Health Stds	0 days	1/5/15	1/5/15	1674	Yes	Information for Health Stds
1678	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Anbar Calcium Isotope: Flight Analysis	91 days?	1/6/15	4/6/15	1674	No	
1679	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Anbar Calcium Isotope: Pass data to ExMC Gap 4.06	0 days	4/6/15	4/6/15	1678	Yes	Information to other Elements
1680																						
1681	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Osteo Gap 3	0 days	4/6/15	4/6/15	1678FF,1670FF	Yes	Done with Gap
1682																						
1683	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 4: (B3) Pharmaceuticals protect bone loss? (M05) How can osteoporosis treatments be er**	**1737 days?**	**10/1/07**	**7/2/12**		**No**	
1684																						
1685	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**LeBlanc Bisphosphonates SMO Task**	**1463 days?**	**10/1/07**	**10/2/11**		**No**	
1686	12	5	3	4	5.33	1	29.33	16.5	15.99	3	87.99	1	0 days	720 days		LeBlanc Bisphosphonates SMO	1370 days?	10/1/07	7/1/11	1687SS	No	
1687	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		LeBlanc Bisphosphonates SMO Initial Upmass to ISS	1 day?	10/1/07	10/1/07		No	
1688	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		LeBlanc Bisphosphonates SMO Analysis	93 days?	7/2/11	10/2/11	1686	No	
1689	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		LeBlanc Bisphosphonates SMO CM Effective?	0 days	10/2/11	10/2/11	1688	Yes	Decision Point
1690	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		LeBlanc Bisphosphonates SMO Flight validated pharm CM to mitigate risk	0 days	10/2/11	10/2/11	1688	Yes	CM
1691																						
1692	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Bateman Space Radiation and Bone Loss: Lunar Outpost Mission Critical Scenarios and	0 days	4/1/08	4/1/08	1774SS	Yes	Link
1693	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Bateman Space Radiation and Bone Loss: Lunar Outpost Mission Critical Scenarios and	0 days	10/1/11	10/1/11	1774FF,1692	Yes	Link
1694																						
1695	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Bloomfield Musculoskeletal Health in Lunar Environment (Start)	1 day?	4/1/08	4/1/08	1777SS	No	Link
1696	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Bloomfield Musculoskeletal Health in Lunar Environment (Finish)	1 day?	7/2/12	7/2/12	1777FF,1695	No	Link
1697																						
1698	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Osteo Gap 4	0 days	7/2/12	7/2/12	1688FF,1693FF	Yes	Done with Gap
1699																						
1700	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 5: (N7) What are K+, Mg+, and P+ changes in relation to CV issues and bone loss?**	**1463 days**	**10/1/07**	**10/2/11**		**No**	
1701																						
1702	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Smith Nutrition SMO (Start) 2	0 days	10/1/07	10/1/07	1312SS	Yes	Link
1703	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Smith Nutrition SMO (Finish) 2	0 days	10/2/11	10/2/11	1312FF,1702	Yes	Link
1704																						
1705																						
1706																						
1707																						
1708																						



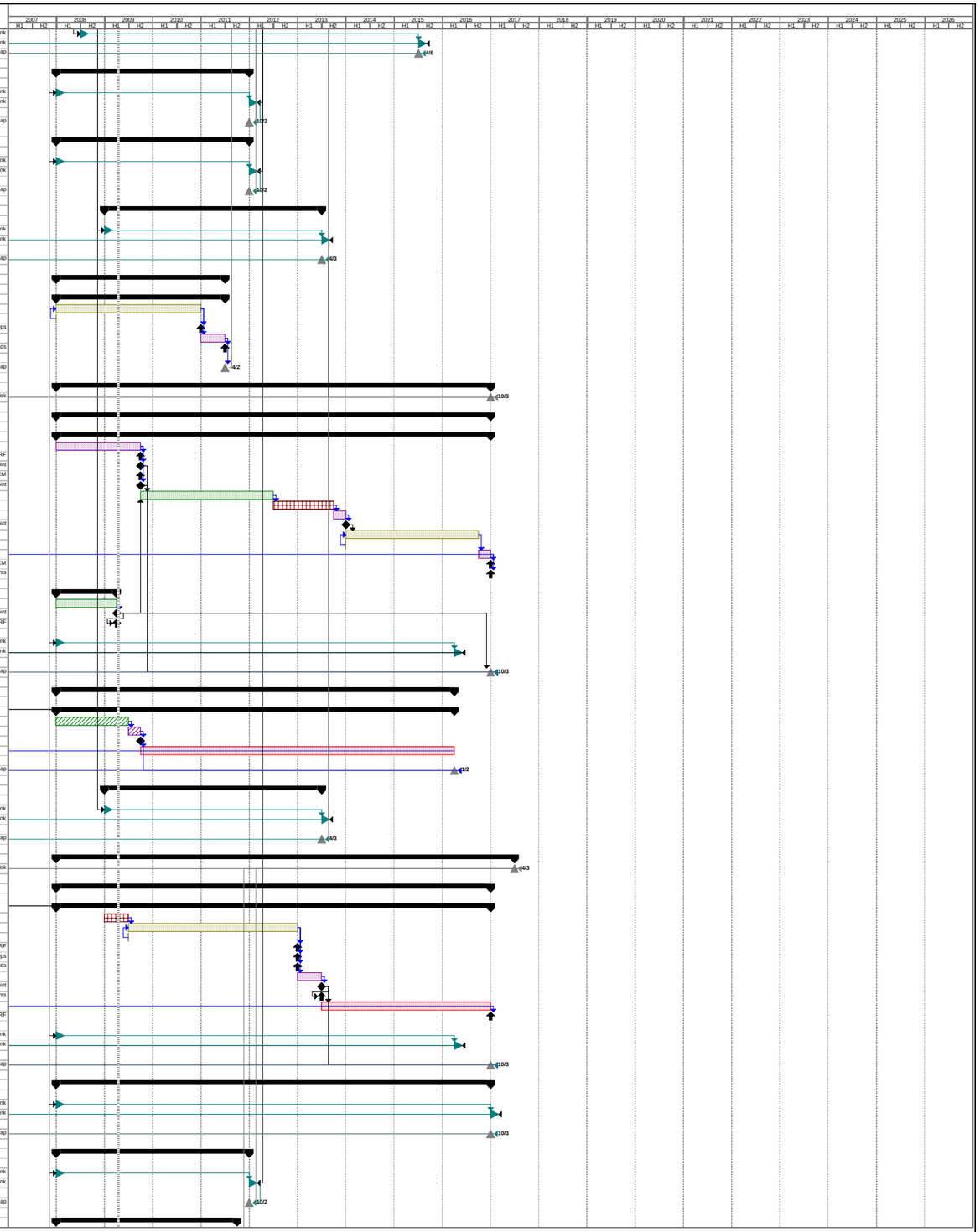
Project: IRPMonica4
Date: 1/9/09

Task | Progress | Summary | External Tasks | Deadline | Task | Task | Task | Task | External Milestone | External Milestone
Split | Milestone | Project Summary | External Milestone | Task | Task | Task | Task | Task | External Milestone

ID	Total Subjects Required	Propensity to Vounteer (1-5)	Volunteers/ Increment	Total Increments Required	Upmass/ Increment Subject	Downmass/ Increment Subject	Crew Time/ Increment Subject	BDC Time/ Increment	Upmass Increment	Downmass Increment (calc)	Crew Time/ Increment (calc)	Resources Exist?	IRP Duration	Duration ISS-Subjects Required	Resource Names	Task Name	Duration	Start	Finish	Predecessors	Milestone	Milestone Type
1709																						
1710																						
1711	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Osteo Gap 5	0 days	10/2/11	10/2/11	1703	Yes	Done with Gap
1712																						
1713	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 6 (N14) Nutritional CM for Bone?**	**1646 days**	**10/1/08**	**4/3/13**		**No**	
1714	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Smith Pro K (Start) 2	0 days	10/1/08	10/1/08	1635SS	Yes	Link
1715	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Smith Pro K(Finish) 2	0 days	4/3/13	4/3/13	1635FF,1658,1	Yes	Link
1716																						
1717	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Osteo Gap 6	0 days	4/3/13	4/3/13	1715FF	Yes	Done with Gap
1718																						
1719	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 7: (B15) Can exercise provide loads to stimulate bone formation?**	**6759 days?**	**4/1/07**	**10/1/25**		**No**	
1720	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Integrated CM Study:**	**3107 days?**	**7/1/12**	**1/1/21**		**No**	
1721	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Integrated CM Study: Improved CM Studies	1462 days?	7/1/12	7/1/16		No	
1722	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Integrated CM Study: Analysis	93 days?	7/2/16	10/2/16	1721	No	
1723	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Integrated CM Study: Select best CM	0 days	10/2/16	10/2/16	1722	Yes	Decision Point
1724	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Integrated CM Study: Flight Prep	547 days?	10/3/16	4/2/18	1723,1738	No	
1725	12	5	3	4	0	0	9	2	0	0	27	1	0 days	720 days		Integrated CM Study: Flight Validation Studies	914 days?	4/3/18	10/2/20	1726SS,1724	No	
1726	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Integrated CM Study: Initial Upmass to ISS	1 day?	4/2/18	4/2/18		No	
1727	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Integrated CM Study: Flight Validation Studies Analysis	90 days?	10/4/20	1/1/21	1725	No	
1728	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Integrated CM Study: Is muscle protected for Mars transit?	0 days	1/1/21	1/1/21	1727	Yes	Decision Point
1729	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Integrated CM Study: Validated CM to mitigate risk	0 days	1/1/21	1/1/21	1728	Yes	CM
1730	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Integrated CM Study: Inform mission ops that muscle protected	0 days	1/1/21	1/1/21	1728	Yes	Informing Mission Ops
1731																						
1732	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**ISS Prescription Study**	**2102 days?**	**7/1/09**	**4/2/15**		**No**	
1733	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		ISS Prescription Study: Flight Prep	550 days?	7/1/09	1/1/11		No	
1734	12	5	3	4	0	0	0	2	0	0	0	1	0 days	720 days		ISS Prescription Study: N=12	1370 days?	1/2/11	10/2/14	1733,1735SS	No	
1735	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		ISS Prescription Study: Initial Upmass to ISS	1 day?	1/1/11	1/1/11		No	
1736	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		ISS Prescription Study: Information to HSRF	0 days	10/2/14	10/2/14	1734	Yes	
1737	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		ISS Prescription Study: Analysis	182 days?	10/3/14	4/2/15	1734	No	
1738	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		ISS Prescription Study: Is current CM protective?	0 days	4/2/15	4/2/15	1737	Yes	Decision Point
1739																						
1740	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Cavanagh Quantitative Test of On-Orbit Exercise CM for Bone:**	**3291 days?**	**4/1/07**	**4/3/16**		**No**	
1741	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Cavanagh Exercise CM for Bone:	823 days?	4/1/07	7/1/09		No	
1742	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Cavanagh Exercise CM for Bone: Analysis	93 days?	7/2/09	10/2/09	1741	No	
1743	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Cavanagh Exercise CM for Bone: Validate individualized prescriptions?	0 days	10/2/09	10/2/09	1742	Yes	Decision Point
1744	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Cavanagh Exercise CM for Bone: Flight Prep	913 days?	10/3/09	4/2/12	1743	No	
1745	12	5	3	4	0	0	0	2	0	0	0	1	0 days	720 days		Cavanagh Exercise CM for Bone: ISS	1462 days?	4/3/12	4/3/16	1746SS,1744	No	
1746	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Cavanagh Exercise CM for Bone: Initial Upmass to ISS	1 day?	4/1/12	4/1/12		No	
1747																						
1748	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Lang Integrated Musculoskeletal CM for Lunar Missions Task**	**6576 days?**	**10/1/07**	**10/1/25**		**No**	
1749	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lang CM for Lunar Missions: 1	459 days?	10/1/07	1/1/09		No	
1750	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lang CM for Lunar Missions: Continue? 1	0 days	1/1/09	1/1/09	1749	Yes	Decision Point
1751	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lang CM for Lunar Missions: 2	365 days?	1/2/09	1/1/10	1750	No	
1752	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lang CM for Lunar Missions: Continue? 2	0 days	1/1/10	1/1/10	1751	Yes	Decision Point
1753	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lang CM for Lunar Missions: 3	455 days	1/2/10	4/1/11	1752	No	
1754	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lang CM for Lunar Missions: Analysis 1	91 days	4/2/11	7/1/11	1753	No	
1755	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lang CM for Lunar Missions: Continue? 3	0 days?	7/1/11	7/1/11	1754	Yes	Decision Point
1756	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lang CM for Lunar Missions: Lunar Bed Rest	1005 days?	7/2/11	4/1/14	1755	No	
1757	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lang CM for Lunar Missions: Analysis 2	89 days	4/4/14	7/1/14	1756	No	
1758	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lang CM for Lunar Missions: Validate CM on Lunar surface?	0 days	7/1/14	7/1/14	1757	Yes	Decision Point
1759	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lang CM for Lunar Missions: CM to mitigate risk	0 days	7/1/14	7/1/14	1758	Yes	CM
1760	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lang CM for Lunar Missions: Lunar Validation Studies	1096 days?	4/1/20	4/1/23		No	
1761	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lang CM for Lunar Missions: Validation?	0 days	4/1/23	4/1/23	1760	Yes	Decision Point
1762	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lang CM for Lunar Missions: Validated Lunar CM to mitigate risk	0 days	4/1/23	4/1/23	1761	Yes	
1763	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lang CM for Lunar Missions: Lunar CM Studies	914 days?	4/2/23	10/1/25	1761	No	
1764																						
1765	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Cavanagh Bone Health Daily Load Stimulus Lunar Missions:**	**1646 days?**	**4/1/08**	**10/2/12**		**No**	
1766	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Cavanagh Bone Load Stimulus:	1553 days?	4/1/08	7/1/12		No	
1767	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Cavanagh Bone Load Stimulus: Analysis	93 days?	7/2/12	10/2/12	1766	No	
1768	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Cavanagh Bone Load Stimulus: Validate CM on Lunar surface?	0 days	10/2/12	10/2/12	1767	Yes	Decision Point
1769	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Cavanagh Bone Load Stimulus: CM to mitigate risk	0 days	10/2/12	10/2/12	1768	Yes	CM
1770																						
1771	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Osteo Gap 7	0 days	1/1/21	1/1/21	1767FF,1745FF	Yes	Done with Gap
1772																						
1773	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 8 (B11) Radiaton effects on bone?**	**1554 days?**	**4/1/08**	**7/2/12**		**No**	
1774	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Bateman Space Radiation and Bone Loss: Lunar Outpost Mission Critical Scenarios and I**	**1279 days?**	**4/1/08**	**10/1/11**		**No**	
1775	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Bateman Space Radiation and Bone Loss: Lunar Outpost Mission Critical Scenarios and Cl	1279 days?	4/1/08	10/1/11		No	
1776																						
1777	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Bloomfield Musculoskeletal Health in Lunar Environment:**	**1554 days?**	**4/1/08**	**7/2/12**		**No**	
1778	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Bloomfield Musculoskeletal Health in Lunar Environment:	1462 days?	4/1/08	4/1/12		No	
1779	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Bloomfield Musculoskeletal Health in Lunar Environment: Analysis	92 days?	4/2/12	7/2/12	1778	No	
1780																						
1781	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Osteo Gap 8	0 days	7/2/12	7/2/12	1775FF,1779FF	Yes	Done with Gap
1782																						
1783	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Risk of Bone Fracture**	**6578 days?**	**10/1/07**	**10/3/25**		**No**	
1784	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Pre-lunar Bone Fracture	0 days	10/3/25	10/3/25	1808FF,1827FF	Yes	Done with Risk
1785	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 1: (B1) Is bone strength completely recovered with recovery of BMD?**	**6395 days**	**4/1/08**	**10/3/25**		**No**	
1786																						
1787	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Hogan Bone Recovery Task (Start)	0 days	6/1/08	6/1/08	1581SS	Yes	Link
1788	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Hogan Bone Recovery Task (Finish)	0 days	10/2/11	10/2/11	1581FF,1787	Yes	Link
1789																						
1790	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to LeBlanc/Lang Bone Recovery Task (Start)	0 days	7/1/09	7/1/09	1586SS	Yes	Link
1791	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to LeBlanc/Lang Bone Recovery Task (Finish)	0 days	1/1/15	1/1/15	1586FF,1790	Yes	Link
1792																						
1793	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Bone CM study TBD (Start) 2	0 days	4/1/11	4/1/11	1593SS	Yes	Link
1794	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Bone CM study TBD (Finish) 2	0 days	10/3/25	10/3/25	1593FF,1793	Yes	Link
1795																						
1796	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Clarke Bone Loss Marker in Sweat Task (Start)	0 days	4/1/08	4/1/08	1608SS	Yes	Link
1797	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Clarke Bone Loss Marker in Sweat Task (Finish)	0 days	1/5/16	1/5/16	1608FF,1796	Yes	Link
1798																						
1799	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Amin Epidemiologic Analysis Task (Start)	0 days	7/1/08	7/1/08	1624SS	Yes	Link
1800	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Amin Epidemiologic Analysis Task (Finish)	0 days	10/2/11	10/2/11	1624FF,1799	Yes	Link
1801																						
1802	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Judex Bone Recovery Task (Start)	0 days	7/1/08	7/1/08	1630SS	Yes	Link
1803	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Judex Bone Recovery Task (Finish)	0 days	10/2/11	10/2/11	1630FF,1802	Yes	Link
1804																						
1805	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Smith Pro K Task (Start)	0 days	10/1/08	10/1/08	1635SS	Yes	Link
1806	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Smith Pro K Task (Finish)	0 days	4/3/13	4/3/13	1635FF,1805	Yes	Link
1807																						
1808	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Fracture Gap 1	0 days	10/3/25	10/3/25	1788FF,1791FF	Yes	Done with Gap
1809																						
1810	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 2: (B10) Time-course of bone degradation during missions?**	**6395 days**	**4/1/08**	**10/3/25**		**No**	
1811																						
1812	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Bone CM study TBD (Start) 3	0 days	4/1/11	4/1/11	1593SS	Yes	Link
1813	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Bone CM study TBD (Finish) 4	0 days	10/3/25	10/3/25	1593FF,1812	Yes	Link
1814																						
1815	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Clarke Bone Loss Marker in Sweat (Start) 2	0 days	4/1/08	4/1/08	1608SS	Yes	Link
1816	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Clarke Bone Loss Marker in Sweat (Finish) 2	0 days	1/5/16	1/5/16	1608FF,1815	Yes	Link
1817																						
1818	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Amin Epidemiologic Analysis (Start) 2	0 days	7/1/08	7/1/08	1624SS	Yes	Link
1819	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Amin Epidemiologic Analysis (Finish) 2	0 days	10/2/11	10/2/11	1624FF,1818	Yes	Link
1820																						
1821	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Judex Bone Recovery (Start) 2	0 days	7/1/08	7/1/08	1630SS	Yes	Link
1822	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Judex Bone Recovery (Finish) 2	0 days	10/2/11	10/2/11	1630FF,1821	Yes	Link
1823																						
1824	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Smith Pro K (Start) 3	0 days	10/1/08	10/1/08	1635SS	Yes	Link
1825	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Smith Pro K(Finish) 3	0 days	4/3/13	4/3/13	1635FF,1824	Yes	Link
1826																						
1827	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Fracture Gap 2	0 days	10/3/25	10/3/25	1825FF,1822FF	Yes	Done with Gap
1828																						
1829	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 3: (N5) Can a single test monitor net bone Ca+ changes?**	**2562 days**	**4/1/08**	**4/6/15**		**No**	
1830																						



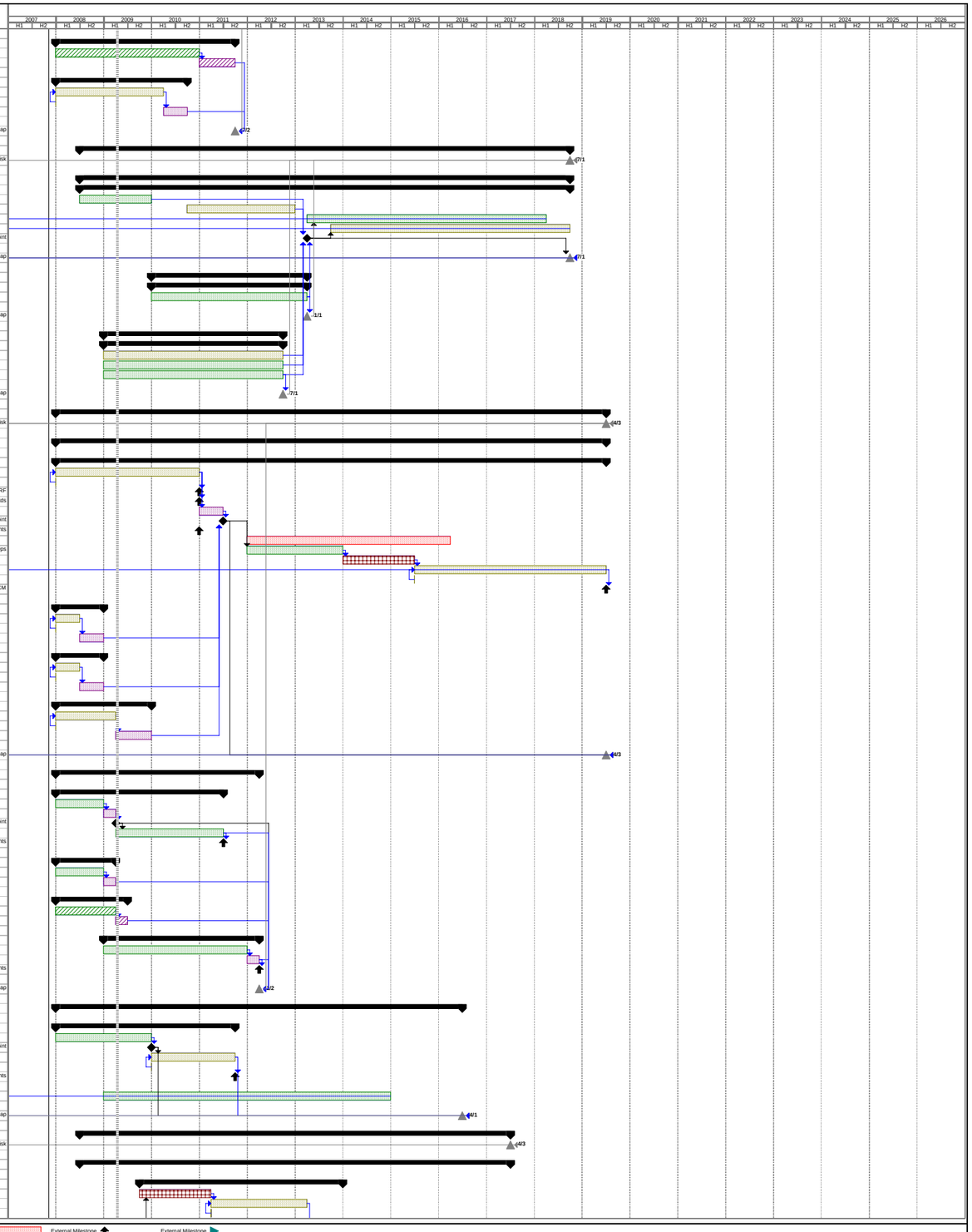
ID	Total Subjects Required	Propensity to Vounteer (1-5)	Volunteers/ Increment	Total Increments Required	Upmass/ Increment Subject	Downmass/ Increment Subject	Crew Time/ Increment Subject	BDC Time/ Increment	Upmass Increment	Downmass Increment (calc)	Crew Time/ Increment (calc)	Resources Exist?	IRP Duration	Duration ISS-Subjects Required	Resource Names	Task Name	Duration	Start	Finish	Predecessors	Milestone	Milestone Type
1831	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Anbar Calcium Isotope Task (Start)	0 days	4/1/08	4/1/08	1665SS	Yes	Link
1832	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Anbar Calcium Isotope Task (Finish)	0 days	4/6/15	4/6/15	1665FF,1831	Yes	Link
1833	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Fracture Gap 3	0 days	4/6/15	4/6/15	1832FF	Yes	Done with Gap
1834																						
1835	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 4: (B3) Pharmaceuticals protect bone loss? (M05) How can osteoporosis treatments be er**	**1463 days**	**10/1/07**	**10/2/11**		**No**	
1836																						
1837	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to LeBlanc Bisphosphonates SMO Task (Start)	0 days	10/1/07	10/1/07	1685SS	Yes	Link
1838	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to LeBlanc Bisphosphonates SMO Task (Finish)	0 days	10/2/11	10/2/11	1685FF,1837	Yes	Link
1839																						
1840	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Fracture Gap 4	0 days	10/2/11	10/2/11	1838FF	Yes	Done with Gap
1841																						
1842	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 5: (N7) What are K+, Mg+, and P+ changes in relation to CV issues and bone loss?**	**1463 days**	**10/1/07**	**10/2/11**		**No**	
1843																						
1844	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Smith Nutrition SMO Task (Start)	0 days	10/1/07	10/1/07	1312SS	Yes	Link
1845	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Smith Nutrition SMO Task (Finish)	0 days	10/2/11	10/2/11	1844,1312FF	Yes	Link
1846																						
1847	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Fracture Gap 5	0 days	10/2/11	10/2/11	1845FF	Yes	Done with Gap
1848																						
1849	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 6 (N14) Nutritional CM for Bone?**	**1646 days**	**10/1/08**	**4/3/13**		**No**	
1850																						
1851	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Smith Pro K Task (Start) 4	0 days	10/1/08	10/1/08	1635SS	Yes	Link
1852	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Smith Pro K Task (Finish) 4	0 days	4/3/13	4/3/13	1635FF,1851	Yes	Link
1853																						
1854	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Fracture Gap 6	0 days	4/3/13	4/3/13	1852FF	Yes	Done with Gap
1855																						
1856	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 7: (B29) Vertebral compression fractures?**	**1280 days?**	**10/1/07**	**4/2/11**		**No**	
1857																						
1858	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Assess vertebral compression fractures (MRID) task**	**1280 days?**	**10/1/07**	**4/2/11**		**No**	
1859	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Assess vertebral compression fractures (MRID): study	1097 days?	10/1/07	10/1/10	1860SS	No	
1860	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Assess vertebral compression fractures (MRID): Initial upmass to ISS	1 day?	10/1/07	10/1/07		No	
1861	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Assess vertebral compression fractures (MRID): Inform mission ops if loads need to be mod	0 days	10/1/10	10/1/10	1859	Yes	Informing Mission Ops
1862	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Assess vertebral compression fractures (MRID): Analysis	183 days?	10/2/10	4/2/11	1859	No	
1863	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Assess vertebral compression fractures (MRID): Update SFHSS bone standard; update nee	0 days	4/2/11	4/2/11	1862	Yes	Recommend Update to Health Stds
1864																						
1865	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Fracture Gap 7	0 days	4/2/11	4/2/11	1862	Yes	Done with Gap
1866																						
1867	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Risk of Renal Stone Formation**	**3291 days?**	**10/1/07**	**10/3/16**		**No**	
1868	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Pre-lunar Renal Stone Formation	0 days	10/3/16	10/3/16	1896FF,1906FF	Yes	Done with Risk
1869																						
1870	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 1: (B5) Current renal stone formation knowledge. (B6) Contributing factors to renal stone**	**3291 days?**	**10/1/07**	**10/3/16**		**No**	
1871																						
1872	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Whitson Renal Stone Task**	**3291 days?**	**10/1/07**	**10/3/16**		**No**	
1873	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Whitson Renal Stone: Analysis	640 days?	10/1/07	7/1/09		No	
1874	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Whitson Renal Stone: Information to HSRF	0 days	7/1/09	7/1/09	1873	Yes	Information to HSRF
1875	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Whitson Renal Stone: CM optimized?	0 days	7/1/09	7/1/09	1873	Yes	Decision Point
1876	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Whitson Renal Stone: Pharm CM to mitigate risk	0 days	7/1/09	7/1/09		Yes	CM
1877	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Whitson Renal Stone: Stones?	0 days	7/1/09	7/1/09	1873	Yes	Decision Point
1878	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Whitson Renal Stone: Modified CM	1005 days?	7/2/09	4/1/12	1877,1875,189(	No	
1879	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Whitson Renal Stone: Flight Prep	457 days?	4/2/12	7/2/13	1878	No	
1880	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Whitson Renal Stone: Modified CM Analysis	93 days?	7/3/13	10/3/13	1879	No	
1881	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Whitson Renal Stone: Modified CM: Select best CM	0 days	10/3/13	10/3/13	1880	Yes	Decision Point
1882	12	5	3	4	6	0	5	2	18	0	15	1	0 days	720 days		Whitson Renal Stone: Flight Validation	1004 days?	10/4/13	7/3/16	1883SS,1881	No	
1883	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Whitson Renal Stone: Initial Upmass to ISS	1 day	10/2/13	10/2/13		No	
1884	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Whitson Renal Stone: Flight Validation Analysis	92 days?	7/4/16	10/3/16	1882	No	
1885	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Whitson Renal Stone: Pharm. Or operational CM to mitigate risk	0 days	10/3/16	10/3/16	1884	Yes	CM
1886	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Whitson Renal Stone: Pass data to SD Conditions List (ExMC gap 4.14)	0 days	10/3/16	10/3/16	1884	Yes	Information to other Elements
1887																						
1888	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Sibonga Data Mining Task**	**459 days?**	**10/1/07**	**1/1/09**		**No**	
1889	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sibonga Data Mining Study	459 days?	10/1/07	1/1/09		No	
1890	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sibonga Data Mining: Stones?	0 days	1/1/09	1/1/09	1889	Yes	Decision Point
1891	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sibonga Data Mining: Information to HSRF	0 days	1/1/09	1/1/09	1890	Yes	Information to HSRF
1892																						
1893	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Levine Multisystem Effect of Exercise: Integrative CM Development Task (Start)	0 days	10/1/07	10/1/07	1900SS	Yes	Link
1894	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Levine Multisystem Effect of Exercise: Integrative CM Development Task (Finish)	0 days	1/2/16	1/2/16	1900FF,1893	Yes	Link
1895																						
1896	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Renal Stone Gap 1	0 days	10/3/16	10/3/16	1894FF,1889FF	Yes	Done with Gap
1897																						
1898	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 2: (B8) Pharmaceuticals prevent stone formation?**	**3016 days?**	**10/1/07**	**1/2/16**		**No**	
1899																						
1900	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Levine Multisystem Effect of Exercise: Integrative CM Development Task**	**3016 days?**	**10/1/07**	**1/2/16**		**No**	
1901	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Levine Multisystem Effect of Exercise:	549 days?	10/1/07	4/1/09		No	
1902	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Levine Multisystem Effect of Exercise: Analysis	91 days?	4/2/09	7/1/09	1901	No	
1903	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Levine Multisystem Effect of Exercise: Validate renal stone CM? Extend study?	1 day?	7/2/09	7/2/09	1902	No	
1904	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Levine Multisystem Effect of Exercise: TBD Task; IRP update required	2375 days?	7/3/09	1/2/16	1903	No	
1905																						
1906	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Renal Stone Gap 2	0 days	1/2/16	1/2/16	1904FF,1903FF	Yes	Done with Gap
1907																						
1908	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 3: (N14) Nutritional CM for Bone?**	**1646 days**	**10/1/08**	**4/3/13**		**No**	
1909																						
1910	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Smith Pro K (Start) 5	0 days	10/1/08	10/1/08	1635SS	Yes	Link
1911	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Smith Pro K (Finish) 5	0 days	4/3/13	4/3/13	1635FF,1910	Yes	Link
1912																						
1913	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Renal Stone Gap 3	0 days	4/3/13	4/3/13	1911FF	Yes	Done with Gap
1914																						
1915	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Risk of Cardiac Rhythm Problems**	**3472 days?**	**10/1/07**	**4/3/17**		**No**	
1916	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Pre-lunar Cardiac Rhythm Problems	0 days	4/3/17	4/3/17	1936FF,1943FF	Yes	Done with Risk
1917																						
1918	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 1: (CV1) Unknown in-flight alterations in cardiac structure and function.**	**3291 days?**	**10/1/07**	**10/3/16**		**No**	
1919																						
1920	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Bungo/Levine Integrated Cardiovascular SMO Task**	**3291 days?**	**10/1/07**	**10/3/16**		**No**	
1921	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Bungo/Levine Integrated Cardiovascular SMO: Flight Prep	183 days?	10/1/08	4/1/09		No	
1922	12	5	3	4	7.5	0	39.5	12	22.5	0	118.5	1	0 days	720 days		Bungo/Levine Integrated Cardiovascular SMO: ISS Study N=12	1280 days?	4/2/09	10/2/12	1923SS,1921	No	
1923	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Bungo/Levine Integrated Cardiovascular SMO: Initial Upmass to ISS	1 day?	4/1/09	4/1/09		No	
1924	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Bungo/Levine Integrated Cardiovascular SMO: Update SFHSS cardiovascular standard 1	0 days	10/2/12	10/2/12	1922	Yes	Information to HSRF
1925	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Bungo/Levine Integrated Cardiovascular SMO: Inform med ops regarding risk	0 days	10/2/12	10/2/12	1922	Yes	Informing Mission Ops
1926	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Bungo/Levine Integrated Cardiovascular SMO: Update SFHSS cardiovascular standard 2	0 days	10/2/12	10/2/12	1922	Yes	Recommend Update to Health Stds
1927	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Bungo/Levine Integrated Cardiovascular SMO Analysis	182 days?	10/3/12	4/2/13	1922	No	
1928	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Bungo/Levine Integrated Cardiovascular SMO: CM needed for CV?	0 days	4/2/13	4/2/13	1927	Yes	Decision Point
1929	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Bungo/Levine Integrated Cardiovascular SMO: Pass data to ExMC Gap 4.20	0 days	4/2/13	4/2/13	1928	Yes	Information to other Elements
1930	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Bungo/Levine Integrated Cardiovascular SMO:Clinical Support	1280 days?	4/3/13	10/3/16	1928	No	
1931	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Bungo/Levine Integrated Cardiovascular SMO: Help Med Ops implement CM	0 days	10/3/16	10/3/16	1930	Yes	Information to HSRF
1932																						
1933	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Levine Multisystem Effect of Exercise: Integrative CM Development (Start)	0 days	10/1/07	10/1/07	1900SS	Yes	Link
1934	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Levine Multisystem Effect of Exercise: Integrative CM Development (Finish)	0 days	1/2/16	1/2/16	1900FF,1933	Yes	Link
1935																						
1936	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Cardiac Rhythm Gap 1	0 days	10/3/16	10/3/16	1930FF,1934FF	Yes	Done with Gap
1937																						
1938	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 2: (CV8) Inability to predict manifestation of sub-clinical or environmentally-induced cardi**	**3291 days**	**10/1/07**	**10/3/16**		**No**	
1939																						
1940	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Bungo/Levine Integrated Cardiovascular SMO (Start) 1	0 days	10/1/07	10/1/07	1920SS	Yes	Link
1941	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Bungo/Levine Integrated Cardiovascular SMO (Finish) 1	0 days	10/3/16	10/3/16	1920FF,1940	Yes	Link
1942																						
1943	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Cardiac Rhythm Gap 2	0 days	10/3/16	10/3/16	1941FF	Yes	Done with Gap
1944																						
1945	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 3: (N7) What are K+, Mg+, and P+ changes in relation to CV issues and bone loss?**	**1463 days**	**10/1/07**	**10/2/11**		**No**	
1946																						
1947	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Smith Nutrition SMO (Start) 4	0 days	10/1/07	10/1/07	1312SS	Yes	Link
1948	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Smith Nutrition SMO (Finish) 4	0 days	10/2/11	10/2/11	1947,1312FF	Yes	Link
1949																						
1950	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Cardiac Rhythm Gap 3	0 days	10/2/11	10/2/11	1948FF	Yes	Done with Gap
1951																						
1952	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 4: (CV7) In-flight fluid distribution is unknown.**	**1371 days?**	**10/1/07**	**7/2/11**		**No**	



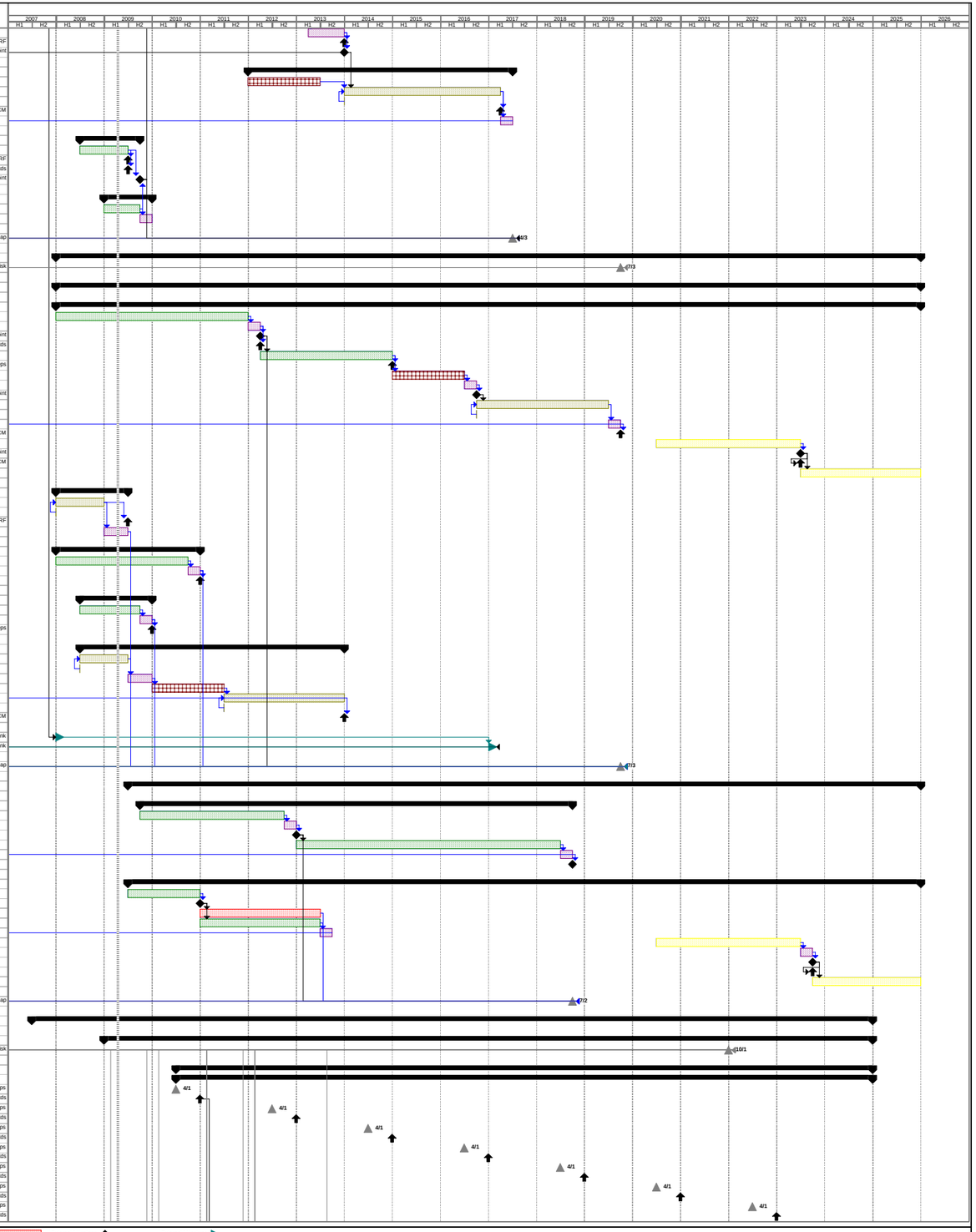
Project: IRP/Monica4
Date: 1/9/09

Task | Progress | Summary | External Tasks | Deadline | Task | Task | Task | Task | External Milestone | External Milestone
Split | Milestone | Project Summary | External Milestone | Task | Task | Task | Task | Task | External Milestone

ID	Total Subjects Required	Propensity to Vounteer (1-5)	Volunteers/ Increment	Total Increments Required	Upmass/ Increment Subject	Downmass/ Increment Subject	Crew Time/ Increment Subject	BDC Time/ Increment	Upmass Increment	Downmass Increment (calc)	Crew Time/ Increment (calc)	Resources Exist?	IRP Duration	Duration ISS-Subjects Required	Resource Names	Task Name	Duration	Start	Finish	Predecessors	Milestone	Milestone Type
1953																						
1954	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Dulchavsky Brazelet Task**	**1371 days?**	**10/1/07**	**7/2/11**		**No**	
1955	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Dulchavsky Brazelet:	1097 days	10/1/07	10/1/10		No	
1956	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Dulchavsky Brazelet: Analysis	274 days?	10/2/10	7/2/11	1955	No	
1957																						
1958	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Duncan Bracelet**	**1006 days?**	**10/1/07**	**7/2/10**		**No**	
1959	9	0	0	#ERROR	10	0	6	0	0	0	0	1	0 days	0 days		Duncan Brazelet:	824 days?	10/1/07	1/1/10	1960SS	No	
1960	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Duncan Brazelet: Initial Upmass to ISS	1 day?	10/1/07	10/1/07		No	
1961	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Duncan Brazelet: Analysis	182 days?	1/2/10	7/2/10	1959	No	
1962																						
1963	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Cardiac Rhythm Gap 4	0 days	7/2/11	7/2/11	1956FF,1961FF	Yes	Done with Gap
1964																						
1965	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Risk of Alterations in Host-Microorganism Interactions**	**3744 days?**	**4/1/08**	**7/1/18**		**No**	
1966	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Pre-lunar Host-Microorganism	0 days	7/1/18	7/1/18	1976FF,1982FF	Yes	Done with Risk
1967																						
1968	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 1: AEH-1: What changes occur in microorganisms during flight that could affect their dise**	**3744 days?**	**4/1/08**	**7/1/18**		**No**	
1969	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Microbial characteristics studies**	**3744 days?**	**4/1/08**	**7/1/18**		**No**	
1970	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Microbial characteristics studies: Ground-based Studies 1	549 days?	4/1/08	10/1/09		No	
1971	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Microbial characteristics studies: Flight-based Studies (AEH)	824 days?	7/1/10	10/1/12		No	
1972	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Microbial characteristics studies: Ground-based Studies 2	1827 days?	1/2/13	1/2/18	1974	No	
1973	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Microbial characteristics studies: Flight-based Studies	1827 days?	7/1/13	7/1/18	1974	No	
1974	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Microbial characteristics studies: Adequate knowledge base to determine if host-microbe int	0 days	1/1/13	1/1/13	1970,1971,1980	Yes	Decision Point
1975																						
1976	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Host-Microorganism InteractionsGap 1	0 days	7/1/18	7/1/18	1973FF,1972FF	Yes	Done with Gap
1977																						
1978	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 2: AEH-2: What changes occur in crewmembers during flight that could increase their sus**	**1189 days?**	**10/1/09**	**1/1/13**		**No**	
1979	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Host susceptibility studies:**	**1189 days?**	**10/1/09**	**1/1/13**		**No**	
1980	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Host susceptibility studies: Ground-based Studies (AEH)	1189 days?	10/1/09	1/1/13		No	
1981																						
1982	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Host-Microorganism Interactions Gap 2	0 days	1/1/13	1/1/13	1980	Yes	Done with Gap
1983																						
1984	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 3: AEH-3: What changes occur during the interaction between host cells and microbial pa**	**1370 days?**	**10/1/08**	**7/1/12**		**No**	
1985	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Host-microbe specific studies:**	**1370 days?**	**10/1/08**	**7/1/12**		**No**	
1986	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Host-microbe specific studies: Flight-based Studies	1370 days?	10/1/08	7/1/12		No	
1987	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Host-microbe specific studies: Ground-based Studies (ACD)	1370 days?	10/1/08	7/1/12		No	
1988	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Host-microbe specific studies: Flight-based Studies (HHC)	1370 days?	10/1/08	7/1/12		No	
1989																						
1990	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Host-Microorganism Interactions Gap 3	0 days	7/1/12	7/1/12	1988	Yes	Done with Gap
1991																						
1992	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Risk of Crew Adverse Health Event Due To Altered Immune Response**	**4204 days?**	**10/1/07**	**4/4/19**		**No**	
1993	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Pre-Lunar Altered Immune Response	0 days	4/3/19	4/3/19	2027FF,2051FF	Yes	Done with Risk
1994																						
1995	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 1: (IM1) Lack of in-flight immune data; (IM2) Improved immunology standard for exploratio**	**4204 days?**	**10/1/07**	**4/4/19**		**No**	
1996																						
1997	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Sams Integrated Immune SMO Task**	**4204 days?**	**10/1/07**	**4/4/19**		**No**	
1998	17	5	3	5.67	1.33	1.33	5.5	2.27	3.99	3.99	16.5	1	0 days	1020 days		Sams Integrated Immune SMO Study N=17	1097 days?	10/1/07	10/1/10	1999SS	No	
1999	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Sams Integrated Immune SMO Initial Upmass to ISS	1 day?	10/1/07	10/1/07		No	
2000	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sams Integrated Immune SMO: Updates to Immune Standard 1	0 days	10/1/10	10/1/10	1998	Yes	Information to HSRF
2001	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sams Integrated Immune SMO: Updates to Immune Standard 2	0 days	10/1/10	10/1/10	1998	Yes	Recommend Update to Health Stds
2002	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sams Integrated Immune SMO Analysis	182 days?	10/2/10	4/1/11	1998	No	
2003	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sams Integrated Immune SMO: Microgravity CM needed?	0 days	4/1/11	4/1/11	2002,2015,2020	Yes	Decision Point
2004	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sams Integrated Immune SMO: Pass data to ExMC Gaps 4.06 and 4.08 and SHFH	0 days	10/1/10	10/1/10		Yes	Information to other Elements
2005	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sams Integrated Immune SMO Clinical Support	1553 days?	10/1/11	12/31/15		No	
2006	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sams Integrated Immune SMO: Ground CM Development	732 days	10/1/11	10/1/13	2003	No	Informing Mission Ops
2007	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sams Integrated Immune SMO: Plan / prep	548 days?	10/2/13	4/2/15	2006	No	
2008	17	5	3	5.67	1.33	1.33	5.5	2.27	3.99	3.99	16.5	1	0 days	1020 days		Sams Integrated Immune SMO: Flight Validation	1462 days?	4/3/15	4/3/19	2009SS,2007	No	
2009	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Sams Integrated Immune SMO: Initial Upmass to ISS	1 day?	4/1/15	4/1/15		No	
2010	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Sams Integrated Immune SMO: CMs to mitigate risk Exploration missions	1 day?	4/4/19	4/4/19	2008	No	CM
2011																						
2012	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Pierson Latent Virus Task**	**367 days?**	**10/1/07**	**10/1/08**		**No**	
2013	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Pierson Latent Virus: ISS	184 days?	10/1/07	4/1/08	2014SS	No	
2014	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Pierson Latent Virus: Initial Upmass to ISS	1 day?	10/1/07	10/1/07		No	
2015	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Pierson Latent Virus: Analysis	183 days?	4/2/08	10/1/08	2013	No	
2016																						
2017	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Pierson Immune Function Task**	**367 days?**	**10/1/07**	**10/1/08**		**No**	
2018	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Pierson Immune Function: ISS	184 days?	10/1/07	4/1/08	2019SS	No	
2019	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Pierson Immune Function: Initial Upmass to ISS	1 day?	10/1/07	10/1/07		No	
2020	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Pierson Immune Function: Analysis	183 days?	4/2/08	10/1/08	2018	No	
2021																						
2022	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Stowe Epstein-Barr Task**	**733 days?**	**10/1/07**	**10/2/09**		**No**	
2023	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Stowe Epstein-Barr: ISS	459 days?	10/1/07	1/1/09	2024SS	No	
2024	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Stowe Epstein-Barr: Initial Upmass to ISS	1 day?	10/1/07	10/1/07		No	
2025	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Stowe Epstein-Barr: Analysis	274 days?	1/2/09	10/2/09	2023	No	
2026																						
2027	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Altered Immune Response Gap 1	0 days	4/3/19	4/3/19	2008FF,2003FF	Yes	Done with Gap
2028																						
2029	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 2: (IM3) Lack of ground analog studies**	**1555 days?**	**10/1/07**	**1/2/12**		**No**	
2030																						
2031	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Crucian NEEMO Immune ROI Task**	**1282 days?**	**10/1/07**	**4/4/11**		**No**	
2032	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Crucian NEEMO Immune ROI:	367 days?	10/1/07	10/1/08		No	
2033	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Crucian NEEMO Immune ROI: Analysis	93 days?	10/2/08	1/2/09	2032	No	
2034	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Crucian NEEMO Immune ROI: Analog Valid?	0 days	1/2/09	1/2/09	2033	Yes	Decision Point
2035	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Crucian NEEMO Immune ROI: Find Better Analog	822 days?	1/3/09	4/4/11	2034	No	
2036	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Crucian NEEMO Immune ROI: Feed analog information to new CM development	0 days	4/4/11	4/4/11	2035	Yes	Information to other Elements
2037																						
2038	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Goodwin Varicella Zoster Virus Task**	**459 days?**	**10/1/07**	**1/1/09**		**No**	
2039	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Goodwin Varicella Zoster Virus	367 days?	10/1/07	10/1/08		No	
2040	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Goodwin Varicella Zoster Virus Analysis	92 days?	10/2/08	1/1/09	2039	No	
2041																						
2042	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Shi Apoptosis and Immune Homeostasis Task**	**550 days?**	**10/1/07**	**4/2/09**		**No**	
2043	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Shi Apoptosis and Immune Homeostasis	459 days?	10/1/07	1/1/09		No	
2044	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Shi Apoptosis and Immune Homeostasis Analysis	91 days?	1/2/09	4/2/09	2043	No	
2045																						
2046	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**CHOICE (ESA Joint Study) Task**	**1189 days?**	**10/1/08**	**1/2/12**		**No**	
2047	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		CHOICE (ESA Joint Study):	1096 days?	10/1/08	10/1/11		No	
2048	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		CHOICE (ESA Joint Study) Analysis	93 days?	10/2/11	1/2/12	2047	No	
2049	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		CHOICE (ESA Joint Study): Feed analog information to new CM development	0 days	1/2/12	1/2/12	2048	Yes	Information to other Elements
2050																						
2051	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Altered Immune Response Gap 2	0 days	1/2/12	1/2/12	2035FF,2040FF	Yes	Done with Gap
2052																						
2053	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 3: (IM4) Lack of in-flight hardware to evaluate hematology / infection / immunity.**	**3105 days?**	**10/1/07**	**4/1/16**		**No**	
2054																						
2055	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Flow Cytometer Project Task**	**1371 days?**	**10/1/07**	**7/2/11**		**No**	
2056	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Flow Cytometer Project:	732 days?	10/1/07	10/1/09		No	
2057	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Flow Cytometer Project: Is device cost effective? Validate on ISS?	0 days	10/1/09	10/1/09	2056	Yes	Decision Point
2058	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Flow Cytometer Project: ISS	639 days?	10/2/09	7/2/11	2057,2059SS	No	
2059	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Flow Cytometer Project: Initial Upmass to ISS	1 day?	10/1/09	10/1/09		No	
2060	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Flow Cytometer Project: Feed information to others, in-flight analysis capability	0 days	7/2/11	7/2/11	2058	Yes	Information to other Elements
2061																						
2062	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lunar Lab Analysis	2192 days?	10/1/08	10/1/14		No	
2063																						
2064	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Altered Immune Response Gap 3	0 days	4/1/16	4/1/16	2058FF,2062FF	Yes	Done with Gap
2065																						
2066	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Risk of Intervertebral Disc Damage**	**3290 days?**	**4/1/08**	**4/3/17**		**No**	
2067	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Pre-lunar Intervertebral Disc Damage	0 days	4/3/17	4/3/17	2096FF	Yes	Done with Risk
2068																						
2069	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 1: (B4) Incidence of intervertebral disc (IVD) damage following spaceflight?**	**3290 days?**	**4/1/08**	**4/3/17**		**No**	
2070																						
2071	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Shackelford Shuttle Pilot Study Task**	**1553 days?**	**7/2/09**	**10/1/13**		**No**	
2072	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Shackelford Shuttle Pilot Study: Flight Prep	547 days?	7/2/09	12/30/10	2090	No	
2073	4	5	3	1.33	0	0	5	0.25	0	0	15	1	0 days	240 days		Shackelford Shuttle Pilot Study	732 days?	12/31/10	12/31/12	2074SS,2072	No	
2074	0	0	0	#ERROR	6	0	0	0	0	0	0	1	0 days	0 days		Shackelford Shuttle Pilot Study Initial Upmass to ISS	1 day	12/31/10	12/31/10		No	



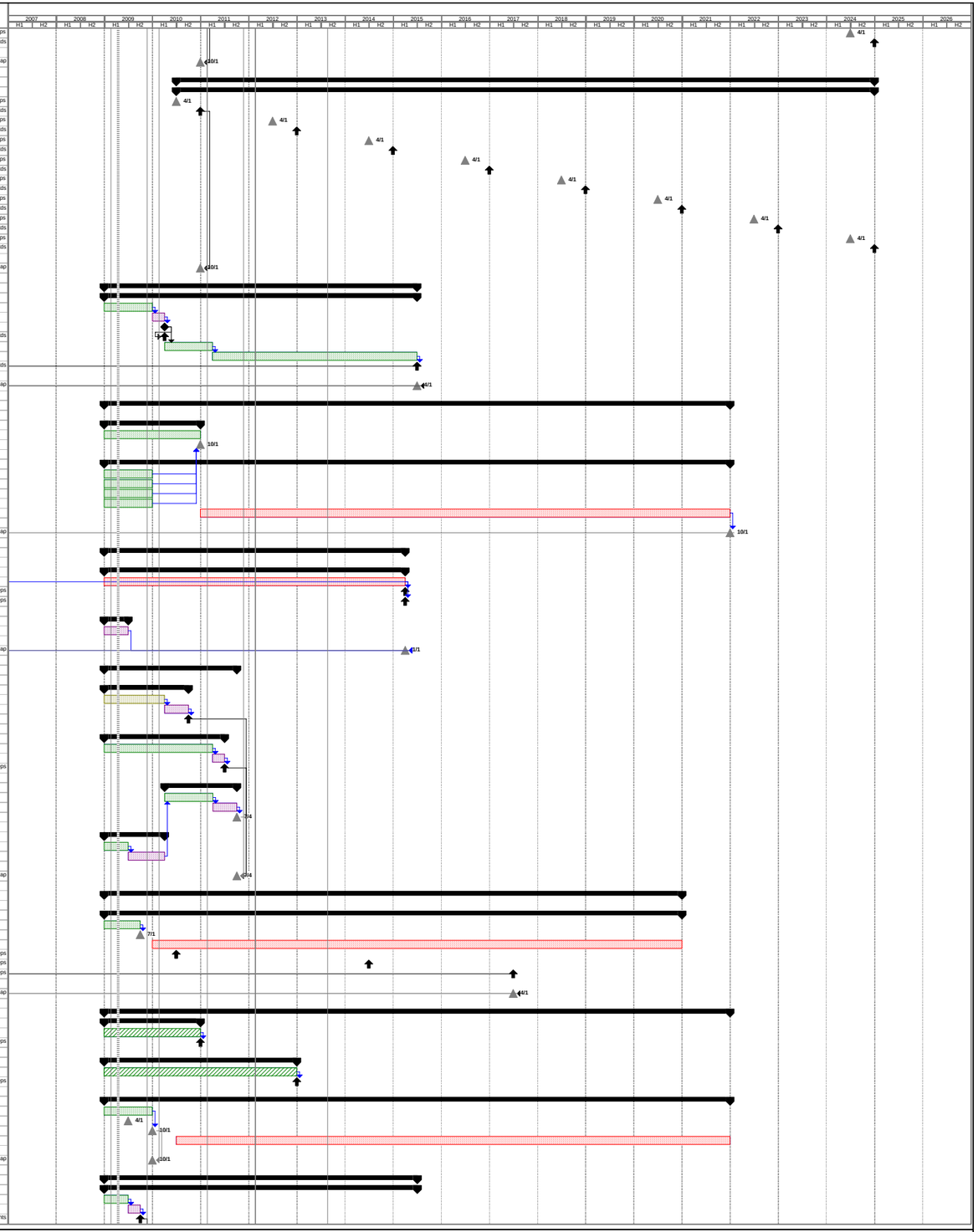
ID	Total Subjects Required	Propensity to Vounteer (1-5)	Volunteers/ Increment	Total Increments Required	Upmass/ Increment Subject	Downmass/ Increment Subject	Crew Time/ Increment Subject	BDC Time/ Increment	Upmass Icremer	Downmass Increment (calc)	Crew Time/ Increment (calc)	Resources Exist?	IRP Duration	Duration ISS-Subjects Required	Resource Names	Task Name	Duration	Start	Finish	Predecessors	Milestone	Milestone Type
2075	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Shackelford Shuttle Pilot Study Analysis	274 days?	1/1/13	10/1/13	2073	No	
2076	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Shackelford Shuttle Pilot Study: Information to HSRF	0 days	10/1/13	10/1/13	2075	Yes	Information to HSRF
2077	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Shackelford Shuttle Pilot Study: CM required?	0 days	10/1/13	10/1/13	2075	Yes	Decision Point
2078																						
2079	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**IVD Mechanical CM Study TBD Task**	**2012 days?**	**10/1/11**	**4/3/17**		**No**	
2080	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		IVD Mechanical CM Study: Flight Prep	549 days?	10/1/11	4/1/13		No	
2081	18	5	3	6	0.83	0.83	0.5	0	2.49	2.49	1.5	1	0 days	1080 days		IVD Mechanical CM Study TBD Flight Validation	1188 days?	10/2/13	1/1/17	2082SS,2080,2	No	
2082	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		IVD Mechanical CM Study TBD Flight Validation Initial Upmass	1 day	10/2/13	10/2/13		No	
2083	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		IVD Mechanical CM Study TBD Flight Validation: Phys CM to mitigate risk	0 days	1/1/17	1/1/17	2081	Yes	CM
2084	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		IVD Mechanical CM Study TBD Flight Validation Analysis	92 days?	1/2/17	4/3/17	2081	No	
2085																						
2086	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Data mining for IVD damage Task**	**457 days?**	**4/1/08**	**7/1/09**		**No**	
2087	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Data mining for IVD damage:	367 days?	4/1/08	4/2/09		No	
2088	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Data mining for IVD damage: Update SFHSS bone standard to include soft tissue 1	0 days	4/2/09	4/2/09	2087	Yes	Information to HSRF
2089	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Data mining for IVD damage: Update SFHSS bone standard to include soft tissue 2	0 days	4/2/09	4/2/09	2087	Yes	Recommend Update to Health Stds
2090	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Data mining for IVD damage: Shuttle pilot study required?	0 days	7/1/09	7/1/09	2087,2093	Yes	Decision Point
2091																						
2092	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Understand back/neck pain etiology Task**	**366 days?**	**10/1/08**	**10/1/09**		**No**	
2093	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Understand back/neck pain etiology 1	274 days?	10/1/08	7/1/09		No	
2094	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Understand back/neck pain etiology 2	92 days?	7/2/09	10/1/09	2093	No	
2095																						
2096	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with IVD Gap 1	0 days	4/3/17	4/3/17	2084FF,2077FF	Yes	Done with Gap
2097																						
2098	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Risk of Orthostatic Intolerance During Re-Exposure to Gravity**	**6577 days?**	**10/1/07**	**10/2/25**		**No**	
2099	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Pre-Lunar Orthostatic Intolerance During Re-Exposure to Gravity	0 days	7/3/19	7/3/19	2150FF,2174FF	Yes	Done with Risk
2100																						
2101	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 1: (CV3) Orthostatic intolerance is a potential hazard**	**6576 days?**	**10/1/07**	**10/1/25**		**No**	
2102																						
2103	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Platts Gender Differences Task**	**6576 days?**	**10/1/07**	**10/1/25**		**No**	
2104	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Platts Gender Differences: Bed Rest Study N=34	1462 days?	10/1/07	10/1/11		No	
2105	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Platts Gender Differences: Analysis	93 days?	10/2/11	1/2/12	2104	No	
2106	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Platts Gender Differences: Gender specific CM needed?	0 days	1/2/12	1/2/12	2105	Yes	Decision Point
2107	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Platts Gender Differences: Recommended update to the CV Standard to include OI	0 days	1/2/12	1/2/12	2105	Yes	Recommend Update to Health Stds
2108	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Platts Gender Differences: CM studies	1004 days?	1/3/12	10/2/14	2106	No	
2109	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Platts Gender Differences: Inform Mission Ops of various methods to prevent OI	0 days	10/2/14	10/2/14	2108	Yes	Informing Mission Ops
2110	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Platts Gender Differences: Plan/Prep	548 days?	10/3/14	4/2/16	2108	No	
2111	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Platts Gender Differences CM studies Analysis	92 days?	4/3/16	7/3/16	2110	No	
2112	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Platts Gender Differences CM studies: Select best CM	0 days	7/3/16	7/3/16	2111	Yes	Decision Point
2113	12	5	3	4	0	0	0	1	0	0	0	1	0 days	720 days		Platts Gender Differences Flight Validation	1003 days?	7/4/16	4/2/19	2114SS,2112	No	
2114	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Platts Gender Differences Initial Upmass to ISS	1 day?	7/3/16	7/3/16		No	
2115	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Platts Gender Differences Flight Analysis	92 days?	4/3/19	7/3/19	2113	No	
2116	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Platts Gender Differences: Gender-based CM to mitigate risk	0 days	7/3/19	7/3/19	2115	Yes	CM
2117	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Platts Gender Differences: Lunar Study N=12	1096 days?	4/1/20	4/1/23		No	
2118	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Platts Gender Differences: Are microgravity CM adequate?	0 days	4/1/23	4/1/23	2117	Yes	Decision Point
2119	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Platts Gender Differences: Phys CM to mitigate risk validated on Lunar surface	0 days	4/1/23	4/1/23	2118	Yes	CM
2120	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Platts Gender Differences: Lunar CM Studies	914 days?	4/2/23	10/1/25	2118	No	
2121																						
2122	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Platts Midodrine SMO Task**	**549 days?**	**10/1/07**	**4/1/09**		**No**	
2123	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Platts Midodrine SMO N=10	367 days?	10/1/07	10/1/08	2124SS	No	
2124	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Platts Midodrine SMO Initial Upmass to ISS	1 day?	10/1/07	10/1/07		No	
2125	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Platts Midodrine SMO: Information to HSRF	0 days	4/1/09	4/1/09	2123	Yes	Information to HSRF
2126	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Platts Midodrine SMO Analysis	182 days?	10/2/08	4/1/09	2123	No	
2127																						
2128	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Platts Hypovolemia Studies Task**	**1098 days?**	**10/1/07**	**10/2/10**		**No**	
2129	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Platts Hypovolemia Studies	1005 days?	10/1/07	7/1/10		No	
2130	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Platts Hypovolemia Studies Analysis	93 days?	7/2/10	10/2/10	2129	No	
2131	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Platts Hypovolemia Studies: Information to HSRF	0 days	10/2/10	10/2/10	2130	Yes	
2132																						
2133	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Platts Evaluate alternate pressure garments Task**	**549 days?**	**4/1/08**	**10/1/09**		**No**	
2134	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Platts Evaluate alternate pressure garments	457 days?	4/1/08	7/1/09		No	
2135	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Platts Evaluate alternate pressure garments: Analysis	92 days?	7/2/09	10/1/09	2134	No	
2136	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Platts Evaluate alternate pressure garments: Inform mission ops of pressure parments as d	0 days	10/1/09	10/1/09	2135	Yes	Informing Mission Ops
2137																						
2138	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Platts/Locke Jobst Flight Eval Task**	**2011 days?**	**4/1/08**	**10/2/13**		**No**	
2139	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Platts/Locke Jobst Flight Eval Pilot Study	366 days?	4/1/08	4/1/09	2140SS	No	
2140	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Platts/Locke Jobst Flight Eval Pilot Study Initial Upmass to ISS 1	1 day	4/1/08	4/1/08		No	
2141	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Platts/Locke Jobst Flight Eval Analysis	184 days?	4/2/09	10/2/09	2139	No	
2142	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Platts/Locke Jobst Flight Eval: Plan/Prep	547 days?	10/3/09	4/2/11	2141	No	
2143	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Platts/Locke Jobst Flight Eval Pre/Post N=16	914 days?	4/3/11	10/2/13	2144SS,2142	No	
2144	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Platts/Locke Jobst Flight Eval Pilot Study Initial Upmass to ISS 2	1 day?	4/2/11	4/2/11		No	
2145	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Platts/Locke Jobst Flight Eval: CM of pressure garments	0 days	10/2/13	10/2/13	2143	Yes	CM
2146																						
2147	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Bungo/Levine Integrated Cardiovascular SMO (Start) 2	0 days	10/1/07	10/1/07	1920SS	Yes	Link
2148	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Link to Bungo/Levine Integrated Cardiovascular SMO (Finish) 2	0 days	10/3/16	10/3/16	1920FF,2147	Yes	Link
2149																						
2150	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Orthostatic Gap 1	0 days	7/3/19	7/3/19	2148FF,2143FF	Yes	Done with Gap
2151																						
2152	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 2: (CV4) Is 1/6-g exposure protective of 1-g orthostatic tolerance?**	**6029 days?**	**4/1/09**	**10/2/25**		**No**	
2153																						
2154	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Platts CV Alterations during Lunar Missions Task**	**3289 days?**	**7/1/09**	**7/2/18**		**No**	
2155	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Platts CV Alterations Lunar Bed Rest Add-on	1097 days?	7/1/09	7/1/12		No	
2156	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Platts CV Alterations Analysis 1	93 days?	7/2/12	10/2/12	2155	No	
2157	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Platts CV Alterations: Lunar CM needed?	0 days	10/2/12	10/2/12	2156	Yes	
2158	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Platts CV Alterations Lunar Bed Rest CM studies	2008 days?	10/3/12	4/2/18	2157	No	
2159	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Platts CV Alterations Analysis 2	91 days?	4/3/18	7/2/18	2158	No	
2160	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Platts CV Alterations: Select best CM	0 days	7/2/18	7/2/18	2159	Yes	
2161																						
2162	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Lunar Analog development Task**	**6029 days?**	**4/1/09**	**10/2/25**		**No**	
2163	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lunar Analog development: Pilot Study	549 days?	4/1/09	10/1/10		No	
2164	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lunar Analog development: Is lunar analog appropriate?	0 days	10/1/10	10/1/10	2163	Yes	
2165	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lunar Analog development: Reassessment of 1/6g analog options	915 days?	10/2/10	4/3/13	2164	No	
2166	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lunar Analog development: Continued	913 days?	10/2/10	4/1/13	2164	No	
2167	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lunar Analog development: Analysis 2	91 days?	4/2/13	7/1/13	2166	No	
2168	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lunar Analog development: Lunar Study N=12	1096 days?	4/1/20	4/1/23		No	
2169	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lunar Analog development: Lunar Study Analysis	92 days?	4/2/23	7/2/23	2168	No	
2170	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lunar Analog development: Are microgravity CM adequate?	0 days	7/2/23	7/2/23	2169	Yes	
2171	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lunar Analog development: CMs to mitigate risk validated for lunar surface	0 days	7/2/23	7/2/23	2170	Yes	
2172	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lunar Analog development: Lunar CM Studies	823 days?	7/3/23	10/2/25	2170	No	
2173																						
2174	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Orthostatic Gap 2	0 days	7/2/18	7/2/18	2167FF,2159FF	Yes	Done with Gap
2175																						
2176	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**PROVIDE ADEQUATE MEDICAL CARE FOR THE CREW**	**6393 days?**	**4/1/07**	**10/1/24**		**No**	
2177																						
2178	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Risk of Inability to Adequately Treat and Ill or Injured Crew Member**	**5844 days?**	**10/1/08**	**10/1/24**		**No**	
2179	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Pre-Lunar Inability to Adequately Treat	0 days	10/1/21	10/1/21	2200FF,2221FF	Yes	Done with Risk
2180																						
2181	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 1 : (ExMC 1.01) Inadequate and/or immature information on medical screening technology**	**5297 days**	**4/1/10**	**10/1/24**		**No**	
2182	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**ExMC/Science and Technology watch for medical screening technology**	**5297 days**	**4/1/10**	**10/1/24**		**No**	
2183	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Watch for medical screening tech: Workshops 1	0 days	4/1/10	4/1/10		Yes	Workshops
2184	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Watch for medical screening tech: Updates to Standards Working Group 1	0 days	10/1/10	10/1/10		Yes	Information for Health Stds
2185	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Watch for medical screening tech: Workshops 2	0 days	4/1/12	4/1/12		Yes	Workshops
2186	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Watch for medical screening tech: Updates to Standards Working Group 2	0 days	10/1/12	10/1/12		Yes	Information for Health Stds
2187	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Watch for medical screening tech: Workshops 3	0 days	4/1/14	4/1/14		Yes	Workshops
2188	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Watch for medical screening tech: Updates to Standards Working Group 3	0 days	10/1/14	10/1/14		Yes	Information for Health Stds
2189	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Watch for medical screening tech: Workshops 4	0 days	4/1/16	4/1/16		Yes	Workshops
2190	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Watch for medical screening tech: Updates to Standards Working Group 4	0 days	10/1/16	10/1/16		Yes	Information for Health Stds
2191	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Watch for medical screening tech: Workshops 5	0 days	4/1/18	4/1/18		Yes	Workshops
2192	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Watch for medical screening tech: Updates to Standards Working Group 5	0 days	10/1/18	10/1/18		Yes	Information for Health Stds
2193	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Watch for medical screening tech: Workshops 6	0 days	4/1/20	4/1/20		Yes	Workshops
2194	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Watch for medical screening tech: Updates to Standards Working Group 6	0 days	10/1/20	10/1/20		Yes	Information for Health Stds
2195	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Watch for medical screening tech: Workshops 7	0 days	4/1/22	4/1/22		Yes	Workshops
2196	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Watch for medical screening tech: Updates to Standards Working Group 7	0 days	10/1/22	10/1/22		Yes	Information for Health Stds



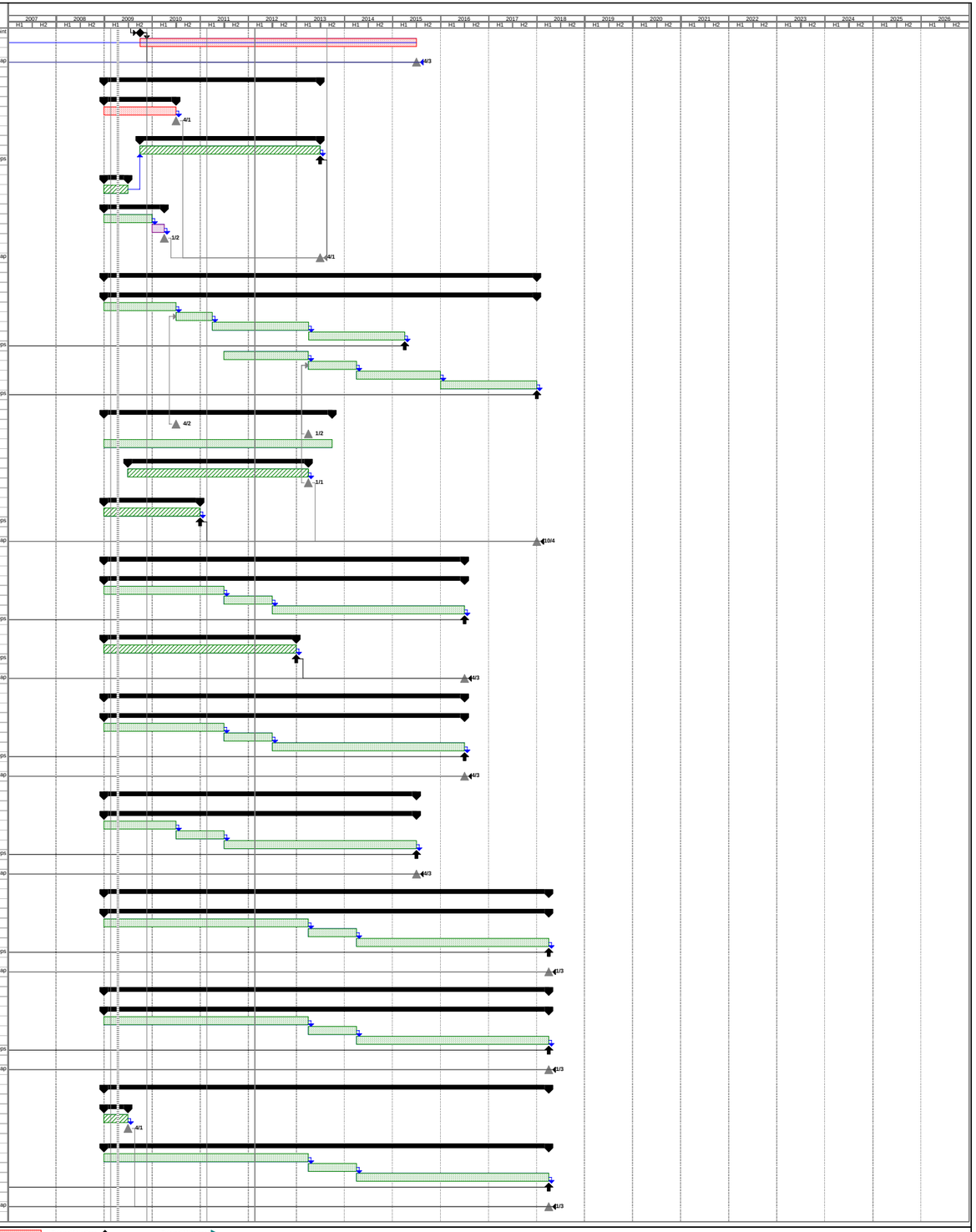
Project: IRPMonica4
Date: 1/9/09

Task | Progress | Summary | External Tasks | Deadline | Task | Task | Task | Task | Task | External Milestone | External Milestone
Split | Milestone | Project Summary | External Milestone | Task | Task | Task | Task | Task | External Milestone

ID	Total Subjects Required	Propensity to Vounteer (1-5)	Volunteers/ Increment	Total Increments Required	Upmass/ Increment Subject	Downmass/ Increment Subject	Crew Time/ Increment Subject	BDC Time/ Increment	Jpmass Increment	Downmass Increment (calc)	Crew Time/ Increment (calc)	Resources Exist?	IRP Duration	Duration ISS-Subjects Required	Resource Names	Task Name	Duration	Start	Finish	Predecessors	Milestone	Milestone Type
2197	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Watch for medical screening tech: Workshops 8	0 days	4/1/24	4/1/24		Yes	Workshops
2198	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Watch for medical screening tech: Updates to Standards Working Group 8	0 days	10/1/24	10/1/24		Yes	Information for Health Stds
2199																						
2200	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Inability to Adequately Treat Gap 1	0 days	10/1/10	10/1/10	2184FF	Yes	Done with Gap
2201																						
2202	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 2: (ExMC 1.02) In inadequate information on genetic screening technology**	**5297 days**	**4/1/10**	**10/1/24**		**No**	
2203	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**ExMC/Science and Technology watch for genetic screening methodology to inform future**	**5297 days**	**4/1/10**	**10/1/24**		**No**	
2204	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Watch for genetic screening methodology: Workshops 1	0 days	4/1/10	4/1/10		Yes	Workshops
2205	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Watch for genetic screening methodology: Updates to Standards Working Group 1	0 days	10/1/10	10/1/10		Yes	Information for Health Stds
2206	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Watch for genetic screening methodology: Workshops 2	0 days	4/1/12	4/1/12		Yes	Workshops
2207	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Watch for genetic screening methodology: Updates to Standards Working Group 2	0 days	10/1/12	10/1/12		Yes	Information for Health Stds
2208	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Watch for genetic screening methodology: Workshops 3	0 days	4/1/14	4/1/14		Yes	Workshops
2209	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Watch for genetic screening methodology: Updates to Standards Working Group 3	0 days	10/1/14	10/1/14		Yes	Information for Health Stds
2210	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Watch for genetic screening methodology: Workshops 4	0 days	4/1/16	4/1/16		Yes	Workshops
2211	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Watch for genetic screening methodology: Updates to Standards Working Group 4	0 days	10/1/16	10/1/16		Yes	Information for Health Stds
2212	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Watch for genetic screening methodology: Workshops 5	0 days	4/1/18	4/1/18		Yes	Workshops
2213	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Watch for genetic screening methodology: Updates to Standards Working Group 5	0 days	10/1/18	10/1/18		Yes	Information for Health Stds
2214	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Watch for genetic screening methodology: Workshops 6	0 days	4/1/20	4/1/20		Yes	Workshops
2215	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Watch for genetic screening methodology: Updates to Standards Working Group 6	0 days	10/1/20	10/1/20		Yes	Information for Health Stds
2216	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Watch for genetic screening methodology: Workshops 7	0 days	4/1/22	4/1/22		Yes	Workshops
2217	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Watch for genetic screening methodology: Updates to Standards Working Group 7	0 days	10/1/22	10/1/22		Yes	Information for Health Stds
2218	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Watch for genetic screening methodology: Workshops 8	0 days	4/1/24	4/1/24		Yes	Workshops
2219	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Watch for genetic screening methodology: Updates to Standards Working Group 8	0 days	10/1/24	10/1/24		Yes	Information for Health Stds
2220																						
2221	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Inability to Adequately Treat Gap 2	0 days	10/1/10	10/1/10	2205FF	Yes	Done with Gap
2222																						
2223	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 3: (ExMC 1.03) Inadequate information on individual susceptibility to hypobaric environm**	**2374 days?**	**10/1/08**	**4/1/15**		**No**	
2224	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Identification of characteristics associated with susceptibility to hypobaric environments**	**2374 days?**	**10/1/08**	**4/1/15**		**No**	
2225	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		individual susceptibility to hypobaric environments: Data Mining	366 days?	10/1/08	10/1/09		No	
2226	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		individual susceptibility to hypobaric environments Analysis	93 days?	10/2/09	1/2/10	2225	No	
2227	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		individual susceptibility to hypobaric environments: Enough data to formulate Standard?	0 days	1/2/10	1/2/10	2226	Yes	
2228	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		individual susceptibility to hypobaric environments: Standard for susceptibility to hypobaric	0 days	1/2/10	1/2/10	2227	Yes	Information for Health Stds
2229	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		individual susceptibility to hypobaric environments: Solicit	363 days?	1/3/10	12/31/10	2227	No	
2230	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		individual susceptibility to hypobaric environments	1552 days?	1/1/11	4/1/15	2229	No	
2231	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		individual susceptibility to hypobaric environments: Standard for susceptibility to hypobaric	0 days	4/1/15	4/1/15	2230	Yes	Information for Health Stds
2232																						
2233	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Inability to Adequately Treat Gap 3	0 days	4/1/15	4/1/15	2231FF	Yes	Done with Gap
2234																						
2235	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 4: (ExMC 2.01) Lack of knowledge about incidence rates, probabilities and consequences**	**4749 days?**	**10/1/08**	**10/1/21**		**No**	
2236																						
2237	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Integrated Medical Model**	**731 days?**	**10/1/08**	**10/1/10**		**No**	
2238	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Integrated Medical Model: Statistical & Clinical Validation	731 days?	10/1/08	10/1/10		No	
2239	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Integrated Medical Model: Validated Model available for MedOps planning	0 days	10/1/10	10/1/10	2242,2243,2244	Yes	
2240																						
2241	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**ExMC/Integrated Medical Model GRC Stimulations**	**4749 days?**	**10/1/08**	**10/1/21**		**No**	
2242	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		IMM GRC: BHP/Sleep	366 days?	10/1/08	10/1/09		No	
2243	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		IMM GRC: EVA Hip	366 days?	10/1/08	10/1/09		No	
2244	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		IMM GRC: Altitude Sickness	366 days?	10/1/08	10/1/09		No	
2245	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		IMM GRC: Backpain/Lumbar Disk	366 days?	10/1/08	10/1/09		No	
2246	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		IMM GRC: Additional models to reduce uncertainty in IMM incidence rates	4019 days?	10/1/10	10/1/21		No	
2247																						
2248	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Inability to Adequately Treat Gap 4	0 days	10/1/21	10/1/21	2246	Yes	Done with Gap
2249																						
2250	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 5: (ExMC 3.01) Lack of knowledge about effectiveness of NASA medical training program**	**2284 days?**	**10/1/08**	**1/1/15**		**No**	
2251																						
2252	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**SHFE/Medical Proficiency Training**	**2284 days?**	**10/1/08**	**1/1/15**		**No**	
2253	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Medical Proficiency Training: Develop integrated procedure and training process to optimize	2284 days?	10/1/08	1/1/15		No	
2254	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Medical Proficiency Training: Inform CEV Medical training	0 days	1/1/15	1/1/15	2253	Yes	Informing Mission Ops
2255	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Medical Proficiency Training: Inform Lander Medical training	0 days	1/1/15	1/1/15	2253	Yes	Informing Mission Ops
2256																						
2257	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**ExMC/Data Mining of postflight medical crew debriefs for information on crewmember me**	**183 days?**	**10/1/08**	**4/1/09**		**No**	
2258	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Data Mining of postflight medical crew debriefs for information on crewmember medical trai	183 days?	10/1/08	4/1/09		No	
2259																						
2260	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Inability to Adequately Treat Gap 5	0 days	1/1/15	1/1/15	2258FF,2253FF	Yes	Done with Gap
2261																						
2262	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 6: (ExMC 3.02) Lack of knowledge about the state of the art in telementoring/telemedicine**	**1007 days?**	**10/1/08**	**7/4/11**		**No**	
2263																						
2264	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**ExMC/Braslet**	**640 days?**	**10/1/08**	**7/2/10**		**No**	
2265	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Braslet	458 days?	10/1/08	1/1/10		No	
2266	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Braslet Analysis	182 days?	1/2/10	7/2/10	2265	No	
2267	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Braslet: Final Report	0 days	7/2/10	7/2/10	2266	Yes	
2268																						
2269	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Dulchavsky Ultrasound Diagnosis of Fracture**	**914 days?**	**10/1/08**	**4/2/11**		**No**	
2270	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Dulchavsky Ultrasound Diagnosis of Fracture	823 days?	10/1/08	1/1/11		No	
2271	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Dulchavsky Ultrasound Diagnosis of Fracture Analysis	91 days?	1/2/11	4/2/11	2270	No	
2272	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Dulchavsky Ultrasound Diagnosis of Fracture: Inform Space Medicine Training Programs	0 days	4/2/11	4/2/11	2271	Yes	Informing Mission Ops
2273																						
2274	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Identify medical conditions that require telementoring/telemedicine**	**548 days?**	**1/3/10**	**7/4/11**		**No**	
2275	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Identify medical conditions that require telementoring/telemedicine	366 days?	1/3/10	1/3/11	2281	No	
2276	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Identify medical conditions that require telementoring/telemedicine Analysis	182 days?	1/4/11	7/4/11	2275	No	
2277	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Identify medical conditions that require telementoring/telemedicine: Close Gap and develop	0 days	7/4/11	7/4/11	2276	Yes	
2278																						
2279	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**ExMC/Data Mining for telementoring studies and practices**	**459 days?**	**10/1/08**	**1/2/10**		**No**	
2280	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Data Mining for telementoring studies and practices	183 days?	10/1/08	4/1/09		No	
2281	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Data Mining for telementoring studies and practices Analysis	276 days?	4/2/09	1/2/10	2280	No	
2282																						
2283	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Inability to Adequately Treat Gap 6	0 days	7/4/11	7/4/11	2267FF,2272FF	Yes	Done with Gap
2284																						
2285	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 7: (ExMC 4.01) Lack of autonomous medical procedure system that includes decision as**	**4384 days?**	**10/1/08**	**10/1/20**		**No**	
2286																						
2287	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**ExMC/Advanced Integrated Clinical System - Guided Medical Procedure System**	**4384 days?**	**10/1/08**	**10/1/20**		**No**	
2288	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Advanced Integrated Clinical System	274 days?	10/1/08	7/1/09		No	
2289	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Advanced Integrated Clinical System: Req'ts and IT solutions identified	0 days	7/1/09	7/1/09	2288	Yes	
2290	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Advanced Integrated Clinical System: Tech watches, downselect studies and/or provide TR	4019 days?	10/1/09	10/1/20		No	
2291	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Advanced Integrated Clinical System: Inform Orion MedKit procedure system	0 days	4/1/10	4/1/10		Yes	Informing Mission Ops
2292	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Advanced Integrated Clinical System: Inform Lander MedKit procedure system	0 days	4/1/14	4/1/14		Yes	Informing Mission Ops
2293	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Advanced Integrated Clinical System: Inform Outpost MedKit procedure system	0 days	4/1/17	4/1/17		Yes	Informing Mission Ops
2294																						
2295	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Inability to Adequately Treat Gap 7	0 days	4/1/17	4/1/17	2293FF	Yes	Done with Gap
2296																						
2297	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 8: (ExMC 4.02) Lack of non-invasive diagnostic imaging capability and techniques to diag**	**4749 days?**	**10/1/08**	**10/1/21**		**No**	
2298	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Dulchavsky/Ultrasound Catalog for Autonomous Medical Care**	**731 days?**	**10/1/08**	**10/1/10**		**No**	
2299	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Ultrasound Catalog for Autonomous Medical Care	731 days?	10/1/08	10/1/10		No	
2300	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Ultrasound Catalog for Autonomous Medical Care deliverable	0 days	10/1/10	10/1/10	2299	Yes	Informing Mission Ops
2301																						
2302	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Qin/Combined Scanning Confocal Ultrasound Diagnostic and Treatment System for Bone**	**1462 days?**	**10/1/08**	**10/1/12**		**No**	
2303	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Confocal Ultrasound: H/W dev't	1462 days?	10/1/08	10/1/12		No	
2304	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Confocal Ultrasound: Technology at TRL 6	0 days	10/1/12	10/1/12	2303	Yes	Informing Mission Ops
2305																						
2306	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**ExMC/Medical Imaging Integration**	**4749 days?**	**10/1/08**	**10/1/21**		**No**	
2307	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Medical Imaging Integration:	366 days?	10/1/08	10/1/09		No	
2308	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Medical Imaging Integration: Space Medicine Imaging Req'ts	0 days	4/1/09	4/1/09		Yes	
2309	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Medical Imaging Integration: Tech Dev't Roadmap	0 days	10/1/09	10/1/09	2307	Yes	
2310	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Medical Imaging Integration: Technology watch and coordination of ExMC & HRP imaging r	4202 days?	4/1/10	10/1/21		No	
2311																						
2312	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Inability to Adequately Treat Gap 8	0 days	10/1/09	10/1/09	2309FF	Yes	Done with Gap
2313																						
2314	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 9: (ExMC 4.03) Lack of capability to treat back/neck pain/injuries**	**2376 days?**	**10/1/08**	**4/3/15**		**No**	
2315	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**ExMC/Understand back/neck pain etiology**	**2376 days?**	**10/1/08**	**4/3/15**		**No**	
2316	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Understand back/neck pain etiology	183 days?	10/1/08	4/1/09		No	
2317	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Understand back/neck pain etiology: Analysis	92 days?	4/2/09	7/2/09	2316	No	
2318	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Understand back/neck pain etiology: Information to other Elements	0 days	7/2/09	7/2/09	2317	Yes	Information to other Elements



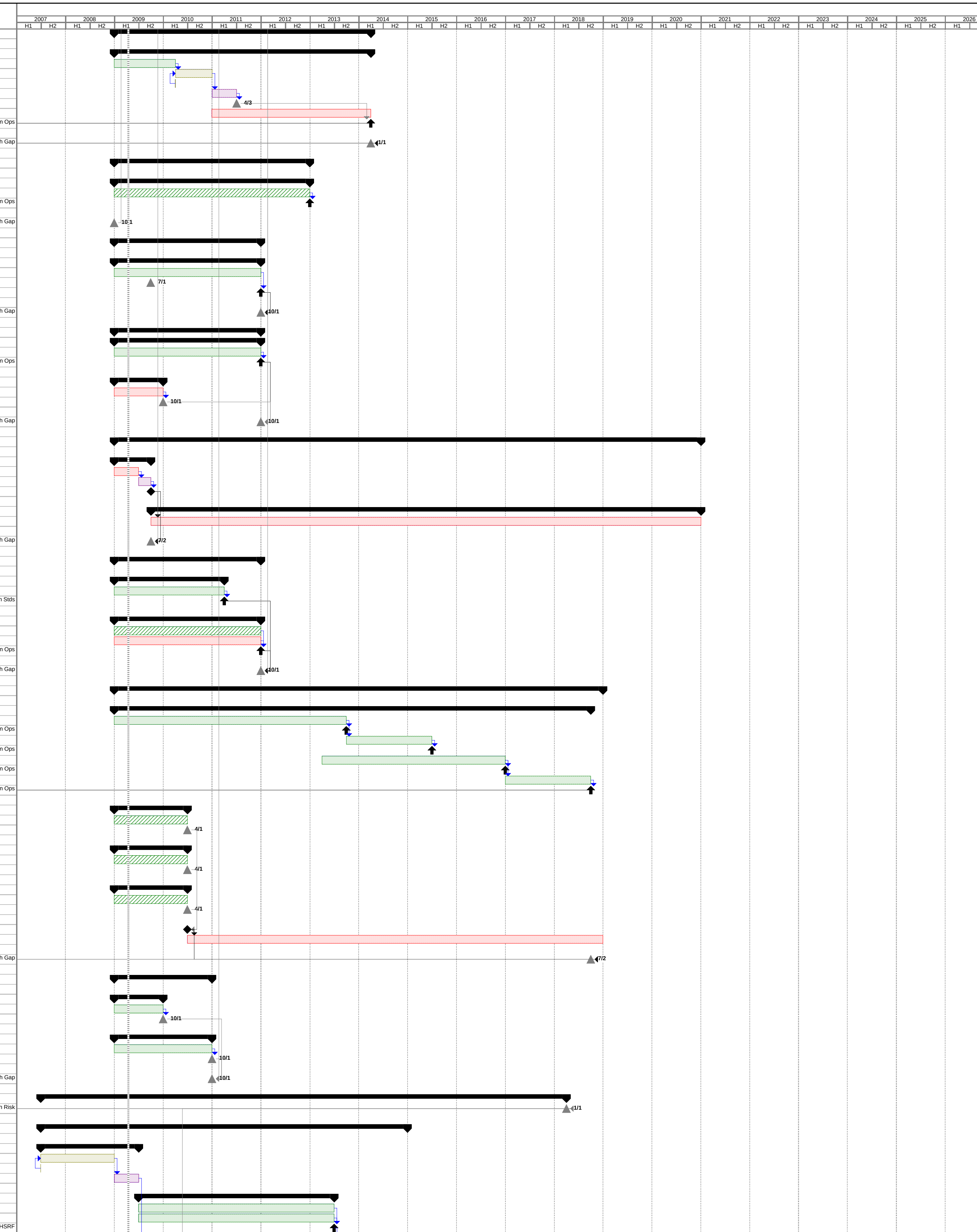
ID	Total Subjects Required	Propensity to Vounteer (1-5)	Volunteers/ Increment	Total Increments Required	Upmass/ Increment Subject	Downmass/ Increment Subject	Crew Time/ Increment Subject	BDC Time/ Increment	Upmass Increment (calc)	Downmass Increment (calc)	Crew Time/ Increment (calc)	Resources Exist?	IRP Duration	Duration ISS-Subjects Required	Resource Names	Task Name	Duration	Start	Finish	Predecessors	Milestone	Milestone Type
2319	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Understand back/neck pain etiology: Is it a problem that requires a technology solution?	0 days	7/2/09	7/2/09	2318	Yes	Decision Point
2320	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Understand back/neck pain etiology: Tech watches, downselect studies and/or provide TRL	2101 days?	7/3/09	4/3/15	2319	No	
2321																						
2322	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Inability to Adequately Treat Gap 9	0 days	4/3/15	4/3/15	2320FF,2319FF	Yes	Done with Gap
2323																						
2324	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 10: (ExMC 4.04) Lack of smart hardware for ventilation with variable oxygenation capabili**	**1644 days?**	**10/1/08**	**4/1/13**		**No**	
2325																						
2326	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**ISSPiLightweight Trauma Module (ISS funded)**	**548 days?**	**10/1/08**	**4/1/10**		**No**	
2327	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lightweight Trauma Module: ISS dev't	548 days?	10/1/08	4/1/10		No	
2328	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lightweight Trauma Module: LTM flight certified for ISS	0 days	4/1/10	4/1/10	2327	Yes	
2329																						
2330	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**O2 Concentrator Development**	**1371 days?**	**7/1/09**	**4/1/13**		**No**	
2331	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		O2 Concentrator Development	1371 days?	7/1/09	4/1/13	2335	No	
2332	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		O2 Concentrator Development: O2 concentrator at TRL 6+	0 days	4/1/13	4/1/13	2331	Yes	Informing Mission Ops
2333																						
2334	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**NSBRI/Evaluation of O2 concentrators at altitude**	**183 days?**	**10/1/08**	**4/1/09**		**No**	
2335	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Evaluation of O2 concentrators	183 days?	10/1/08	4/1/09		No	
2336																						
2337	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**ExMC/Medical Oxygen Fire Safety**	**459 days?**	**10/1/08**	**1/2/10**		**No**	
2338	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Medical Oxygen Fire Safety:	366 days?	10/1/08	10/1/09		No	
2339	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Medical Oxygen Fire Safety: Analysis	93 days?	10/2/09	1/2/10	2338	No	
2340	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Medical Oxygen Fire Safety: Report for CEV medical O2 use and O2 concentrator dev't.	0 days	1/2/10	1/2/10	2339	Yes	
2341																						
2342	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Inability to Adequately Treat Gap 10	0 days	4/1/13	4/1/13	2340FF,2332FF	Yes	Done with Gap
2343																						
2344	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 11: (ExMC 4.05) Lack of minimally invasive in-flight laboratory capabilities with limited co**	**3291 days?**	**10/1/08**	**10/4/17**		**No**	
2345																						
2346	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**ExMC/Lunar Lab Analysis**	**3291 days?**	**10/1/08**	**10/4/17**		**No**	
2347	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lunar Lab Analysis: Lander: Market Survey	548 days?	10/1/08	4/1/10		No	
2348	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lunar Lab Analysis: Lander: Down select	276 days?	4/2/10	1/2/11	2347,2359SS	No	
2349	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lunar Lab Analysis: Lander: Tech Integration & Prototype	732 days?	1/3/11	1/3/13	2348	No	
2350	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lunar Lab Analysis:Lander: Analogs Testing	731 days?	1/4/13	1/4/15	2349	No	
2351	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lunar Lab Analysis:Lander: Deliver TRL 6 System	0 days	1/4/15	1/4/15	2350	Yes	Informing Mission Ops
2352	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lunar Lab Analysis: Outpost: Market Survey	642 days?	4/1/11	1/1/13		No	
2353	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lunar Lab Analysis:Outpost: Down select	366 days?	1/2/13	1/2/14	2352,2360SS,2	No	
2354	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lunar Lab Analysis: Outpost: Tech Integration & Prototype	639 days?	1/3/14	10/3/15	2353	No	
2355	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lunar Lab Analysis: Outpost: Analogs Testing	732 days?	10/4/15	10/4/17	2354	No	
2356	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lunar Lab Analysis: Outpost: Deliver TRL 6 System	0 days	10/4/17	10/4/17	2355	Yes	Informing Mission Ops
2357																						
2358	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**ExMC/Reusable Laboratory Capability**	**1735 days?**	**10/1/08**	**7/1/13**		**No**	
2359	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Reusable Laboratory Capability: Inform Lander down select decision	0 days	4/2/10	4/2/10		Yes	
2360	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Reusable Laboratory Capability: Inform Outpost down select decision	0 days	1/2/13	1/2/13		Yes	
2361	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Reusable Laboratory Capability: Market and technology surveys	1735 days?	10/1/08	7/1/13		No	
2362																						
2363	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**SBIR technology dev'ts**	**1372 days?**	**4/1/09**	**1/1/13**		**No**	
2364	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		SBIR technology dev'ts:	1372 days?	4/1/09	1/1/13		No	
2365	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		SBIR technology dev'ts: Inform Outpost down select decision	0 days	1/1/13	1/1/13	2364	Yes	
2366																						
2367	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**NSBRI/In-flight Blood Analysis Technology for Astronaut Health Monitoring**	**731 days?**	**10/1/08**	**10/1/10**		**No**	
2368	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		In-flight Blood Analysis	731 days?	10/1/08	10/1/10		No	
2369	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		In-flight Blood Analysis: Deliver TRL 6	0 days	10/1/10	10/1/10	2368	Yes	Informing Mission Ops
2370																						
2371	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Inability to Adequately Treat Gap 11	0 days	10/4/17	10/4/17	2351FF,2356FF	Yes	Done with Gap
2372																						
2373	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 12: (ExMC 4.06) Lack of capability to stabilize and treat bone fractures**	**2742 days?**	**10/1/08**	**4/3/16**		**No**	
2374																						
2375	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**ExMC/Development of methods/technologies for treatment of bone fractures**	**2742 days?**	**10/1/08**	**4/3/16**		**No**	
2376	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Treatment of bone fractures: Ongoing Tech Watch	913 days?	10/1/08	4/1/11		No	
2377	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Treatment of bone fractures: Solicit	367 days?	4/2/11	4/2/12	2376	No	
2378	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Treatment of bone fractures: H/W dev't	1462 days?	4/3/12	4/3/16	2377	No	
2379	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Treatment of bone fractures: Technology at TRL 6	0 days	4/3/16	4/3/16	2378	Yes	Informing Mission Ops
2380																						
2381	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**NSBRI/Combined Scanning Confocal Ultrasound Diagnostic and Treatment System for Bo**	**1462 days?**	**10/1/08**	**10/1/12**		**No**	
2382	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Scanning Confocal Ultrasound: H/W dev't	1462 days?	10/1/08	10/1/12		No	
2383	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Scanning Confocal Ultrasound: Technology at TRL 6	0 days	10/1/12	10/1/12	2382	Yes	Informing Mission Ops
2384																						
2385	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Inability to Adequately Treat Gap 12	0 days	4/3/16	4/3/16	2379FF,2383FF	Yes	Done with Gap
2386																						
2387	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 13: (ExMC 4.08) Lack of wound care capability to improve healing following wound closur**	**2742 days?**	**10/1/08**	**4/3/16**		**No**	
2388																						
2389	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**ExMC/Development of methods/technologies for wound closure**	**2742 days?**	**10/1/08**	**4/3/16**		**No**	
2390	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Wound closure: Ongoing Tech Watch	913 days?	10/1/08	4/1/11		No	
2391	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Wound closure: Solicit	367 days?	4/2/11	4/2/12	2390	No	
2392	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Wound closure: H/W dev't	1462 days?	4/3/12	4/3/16	2391	No	
2393	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Wound closure: Technology at TRL 6	0 days	4/3/16	4/3/16	2392	Yes	Informing Mission Ops
2394																						
2395	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Inability to Adequately Treat Gap 13	0 days	4/3/16	4/3/16	2393FF	Yes	Done with Gap
2396																						
2397	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 14: (ExMC 4.08) Lack of reusable cold compress and heating pad capability made of suita**	**2376 days?**	**10/1/08**	**4/3/15**		**No**	
2398																						
2399	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**SBIR/Development of methods/technologies for providing cold compress and heating pac**	**2376 days?**	**10/1/08**	**4/3/15**		**No**	
2400	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Cold compress and heating pad: Tech Watch	548 days?	10/1/08	4/1/10		No	
2401	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Cold compress and heating pad: Solicit	366 days?	4/2/10	4/2/11	2400	No	
2402	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Cold compress and heating pad: H/W dev't	1462 days?	4/3/11	4/3/15	2401	No	
2403	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Cold compress and heating pad: TRL 6 system for Lander Med Kit	0 days	4/3/15	4/3/15	2402	Yes	Informing Mission Ops
2404																						
2405	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Inability to Adequately Treat Gap 14	0 days	4/3/15	4/3/15	2403FF	Yes	Done with Gap
2406																						
2407	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 15: (ExMC 4.09) Lack of medical suction and fluid containment capability for chest tube a**	**3382 days?**	**10/1/08**	**1/3/18**		**No**	
2408																						
2409	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**ExMC/Development of methods/technologies for medical suction**	**3382 days?**	**10/1/08**	**1/3/18**		**No**	
2410	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Medical Suction: Ongoing Tech Watch	1554 days?	10/1/08	1/1/13		No	
2411	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Medical Suction: Solicit	366 days?	1/2/13	1/2/14	2410	No	
2412	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Medical Suction: H/W dev't	1462 days?	1/3/14	1/3/18	2411	No	
2413	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Medical Suction: Technology at TRL 6	0 days	1/3/18	1/3/18	2412	Yes	Informing Mission Ops
2414																						
2415	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Inability to Adequately Treat Gap 15	0 days	1/3/18	1/3/18	2413FF	Yes	Done with Gap
2416																						
2417	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 16: (ExMC 4.10) Lack of rapid vascular access capability to treat identified Exploration Me**	**3382 days?**	**10/1/08**	**1/3/18**		**No**	
2418																						
2419	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**ExMC/Development of methods/technologies for rapid vascular access**	**3382 days?**	**10/1/08**	**1/3/18**		**No**	
2420	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Rapid vascular access: Ongoing Tech Watch	1554 days?	10/1/08	1/1/13		No	
2421	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Rapid vascular access: Solicit	366 days?	1/2/13	1/2/14	2420	No	
2422	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Rapid vascular access: H/W dev't	1462 days?	1/3/14	1/3/18	2421	No	
2423	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Rapid vascular access: Technology at TRL 6	0 days	1/3/18	1/3/18	2422	Yes	Informing Mission Ops
2424																						
2425	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Inability to Adequately Treat Gap 16	0 days	1/3/18	1/3/18	2423FF	Yes	Done with Gap
2426																						
2427	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 17: (ExMC 4.11) Lack of dental care capabilities (on hold)**	**3382 days?**	**10/1/08**	**1/3/18**		**No**	
2428																						
2429	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**CDDF/Innovative treatments of Dental emergencies for Lunar and Exploration Missions**	**183 days?**	**10/1/08**	**4/1/09**		**No**	
2430	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Dental emergencies	183 days?	10/1/08	4/1/09		No	
2431	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Dental emergencies: Final Report	0 days	4/1/09	4/1/09	2430	Yes	
2432																						
2433	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**ExMC/Development of methods/technologies for dental conditions**	**3382 days?**	**10/1/08**	**1/3/18**		**No**	
2434	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Dental conditions: Ongoing Tech Watch	1554 days?	10/1/08	1/1/13		No	
2435	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Dental conditions: Solicit	366 days?	1/2/13	1/2/14	2434	No	
2436	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Dental conditions: H/W dev't	1462 days?	1/3/14	1/3/18	2435	No	
2437	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Dental conditions: Technology at TRL 6	0 days	1/3/18	1/3/18	2436	Yes	
2438																						
2439	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Inability to Adequately Treat Gap 17	0 days	1/3/18	1/3/18	2431FF,2437FF	Yes	Done with Gap
2440																						



Project: IRPMonica4
Date: 1/9/09

Task | Progress | Summary | External Tasks | Deadline | Task | Task | Task | Task | External Milestone | External Milestone
Split | Milestone | Project Summary | External Milestone | Task | Task | Task | Task | Task | External Milestone

ID	Total Subjects Required	Propensity to Vounteer (1-5)	Volunteers/ Increment	Total Increments Required	Upmass/ Increment Subject	Downmass/ Increment Subject	Crew Time/ Increment Subject	BDC Time/ Increment	Jpmass ncremer	Downmass Increment (calc)	Crew Time/ Increment (calc)	Resources Exist?	IRP Duration	Duration ISS-Subjects Required	Resource Names	Task Name	Duration	Start	Finish	Predecessors	Milestone	Milestone Type
2441	0	0	0	0	0	0	0	0	0	0	0	0	0 days	0 days		**Gap 18: (ExMC 4.12) Lack of in situ intravenous (IV) fluid generation capability**	1919 days?	10/1/08	1/1/14		No	
2442																						
2443	0	0	0	0	0	0	0	0	0	0	0	0	0 days	0 days		**ExMC/Medical Water Generation & IV Drug Mixing (IVGen)**	1919 days?	10/1/08	1/1/14		No	
2444	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		IVGen: Int Flight Test	458 days?	10/1/08	1/1/10		No	
2445	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		IVGen: ISS	274 days?	1/2/10	10/2/10	2446SS,2444	No	
2446	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		IVGen: Initial Upmass to ISS	1 day?	1/1/10	1/1/10		No	
2447	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		IVGen: Analysis	183 days?	10/3/10	4/3/11	2445	No	
2448	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		IVGen: Final Report	0 days	4/3/11	4/3/11	2447	Yes	
2449	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		IVGen: FDA Processing	1189 days?	10/1/10	1/1/14		No	
2450	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		IVGen: Technology at TRL 8-9	0 days	1/1/14	1/1/14	2448	Yes	Informing Mission Ops
2451																						
2452	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Inability to Adequately Treat Gap 18	0 days	1/1/14	1/1/14	2450FF	Yes	Done with Gap
2453																						
2454	0	0	0	0	0	0	0	0	0	0	0	0	0 days	0 days		**Gap 19: (ExMC 4.13) Lack of lithotripsy or other capability to treat a renal stone**	1462 days?	10/1/08	10/1/12		No	
2455																						
2456	0	0	0	0	0	0	0	0	0	0	0	0	0 days	0 days		**NSBRI/Smart therapeutic ultrasound device for mission critical care**	1462 days?	10/1/08	10/1/12		No	
2457	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Ultrasound device	1462 days?	10/1/08	10/1/12		No	
2458	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Ultrasound device: Technology at TRL 6	0 days	10/1/12	10/1/12	2457	Yes	Informing Mission Ops
2459																						
2460	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Inability to Adequately Treat Gap 19	0 days	10/1/08	10/1/08		Yes	Done with Gap
2461																						
2462	0	0	0	0	0	0	0	0	0	0	0	0	0 days	0 days		**Gap: (ExMC 4.14) Lack of efficient medical consumable inventory tracking system that provid**	1096 days?	10/1/08	10/1/11		No	
2463																						
2464	0	0	0	0	0	0	0	0	0	0	0	0	0 days	0 days		**ExMC/Consumables Tracking**	1096 days?	10/1/08	10/1/11		No	
2465	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Consumables Tracking:	1096 days?	10/1/08	10/1/11		No	
2466	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Consumables Tracking: Interim Solution for ISS	0 days	7/1/09	7/1/09		Yes	
2467	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Consumables Tracking: Technology at TRL 6	0 days	10/1/11	10/1/11	2465	Yes	
2468																						
2469	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Inability to Adequately Treat Gap 20	0 days	10/1/11	10/1/11	2467FF	Yes	Done with Gap
2470																						
2471	0	0	0	0	0	0	0	0	0	0	0	0	0 days	0 days		**Gap 21: (ExMC 4.16) Lack of technique or procedure to draw injectable medication into a syrin**	1096 days?	10/1/08	10/1/11		No	
2472	0	0	0	0	0	0	0	0	0	0	0	0	0 days	0 days		**ExMC/Injectables**	1096 days?	10/1/08	10/1/11		No	
2473	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Injectables	1096 days?	10/1/08	10/1/11		No	
2474	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Injectables: Technology at TRL 6	0 days	10/1/11	10/1/11	2473	Yes	Informing Mission Ops
2475																						
2476	0	0	0	0	0	0	0	0	0	0	0	0	0 days	0 days		**ISSP/Injectable medication study for ISS Medical Kit Redesign**	366 days?	10/1/08	10/1/09		No	
2477	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Injectable medication:	366 days?	10/1/08	10/1/09		No	
2478	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Injectable medication: Redesigned ISS Med Kits with new procedures for injectable medica	0 days	10/1/09	10/1/09	2477	Yes	
2479																						
2480	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Inability to Adequately Treat Gap 21	0 days	10/1/11	10/1/11	2474FF,2478FF	Yes	Done with Gap
2481																						
2482	0	0	0	0	0	0	0	0	0	0	0	0	0 days	0 days		**Gap 22: (ExMC 4.18) Lack of adequate protection for medications to preserve stability and she**	4386 days?	10/1/08	10/3/20		No	
2483																						
2484	0	0	0	0	0	0	0	0	0	0	0	0	0 days	0 days		**NxPCM/Stability of Pharmacotherapeutic and Nutritional Compounds: Stability SMO**	275 days?	10/1/08	7/2/09		No	
2485	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Stability SMO NxPCM	183 days?	10/1/08	4/1/09		No	
2486	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Stability SMO: Analysis 2	92 days?	4/2/09	7/2/09	2485	No	
2487	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Stability SMO: Does spaceflight affect stability and shelf-life?	0 days	7/2/09	7/2/09	2486	Yes	
2488																						
2489	0	0	0	0	0	0	0	0	0	0	0	0	0 days	0 days		**ExMC/Development of methods/technologies for medication stability and shelf-life**	4111 days?	7/3/09	10/3/20		No	
2490	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Medication stability and shelf-life: Tech watches, downselect studies and/or provide TRL 6 t	4111 days?	7/3/09	10/3/20	2487	No	
2491																						
2492	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Inability to Adequately Treat Gap 22	0 days	7/2/09	7/2/09	2487FF	Yes	Done with Gap
2493																						
2494	0	0	0	0	0	0	0	0	0	0	0	0	0 days	0 days		**Gap 23: (ExMC 4.18) Lack of adequate biomedical monitoring capability for Constellation EVA**	1096 days?	10/1/08	10/1/11		No	
2495																						
2496	0	0	0	0	0	0	0	0	0	0	0	0	0 days	0 days		**ExMC/Biomedical Sensors (EVA)**	823 days?	10/1/08	1/1/11		No	
2497	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Biomedical Sensors: Market Survey	823 days?	10/1/08	1/1/11		No	
2498	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Biomedical Sensors: Final Req'ts for EVA Suits	0 days	1/1/11	1/1/11	2497	Yes	Recommend Update to Health Stds
2499																						
2500	0	0	0	0	0	0	0	0	0	0	0	0	0 days	0 days		**Soller/Noninvasive Biosensor Algorithms for Continuous Metabolic Rate Determination**	1096 days?	10/1/08	10/1/11		No	
2501	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Noninvasive Biosensor Algorithms	1096 days?	10/1/08	10/1/11		No	
2502	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Noninvasive Biosensor Algorithms: EPSP Integration	1096 days?	10/1/08	10/1/11		No	
2503	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Noninvasive Biosensor Algorithms: TRL 6 Sensor system for continuous assessment of me	0 days	10/1/11	10/1/11	2501,2502	Yes	Informing Mission Ops
2504																						
2505	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Inability to Adequately Treat Gap 23	0 days	10/1/11	10/1/11	2498FF,2503FF	Yes	Done with Gap
2506																						
2507	0	0	0	0	0	0	0	0	0	0	0	0	0 days	0 days		**Gap 24: (ExMC 4.19) Lack of definition of biomedical monitoring requirements for performing**	3653 days?	10/1/08	10/1/18		No	
2508																						
2509	0	0	0	0	0	0	0	0	0	0	0	0	0 days	0 days		**ExMC/Biomedical Sensors (IVA)**	3562 days?	10/1/08	7/2/18		No	
2510	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Biomedical Sensors (IVA): Req'ts based on Exploration Medical Condition List/Market Surv	1735 days?	10/1/08	7/1/13		No	
2511	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Biomedical Sensors (IVA): Validated Lander req'ts	0 days	7/1/13	7/1/13	2510	Yes	Informing Mission Ops
2512	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Biomedical Sensors (IVA): Tech Dev to TRL 6	640 days?	7/2/13	4/2/15	2510	No	
2513	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Biomedical Sensors (IVA): TRL 6 System	0 days	4/2/15	4/2/15	2512	Yes	Informing Mission Ops
2514	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Biomedical Sensors (IVA): Market Survey Req'ts dev't	1370 days?	1/1/13	10/1/16		No	
2515	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Biomedical Sensors (IVA) Outpost : Validated Outpost req'ts	0 days	10/1/16	10/1/16	2514	Yes	Informing Mission Ops
2516	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Biomedical Sensors (IVA) Outpost : Tech Dev to TRL 6	639 days?	10/2/16	7/2/18	2514	No	
2517	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Biomedical Sensors (IVA) Outpost : TRL 6 System	0 days	7/2/18	7/2/18	2516	Yes	Informing Mission Ops
2518																						
2519	0	0	0	0	0	0	0	0	0	0	0	0	0 days	0 days		**Lunar Health Monitor: A Wearable System to Monitor Astronaut Health Status**	548 days?	10/1/08	4/1/10		No	
2520	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lunar Health Monitor:	548 days?	10/1/08	4/1/10		No	
2521	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Lunar Health Monitor: Prototype	0 days	4/1/10	4/1/10		Yes	
2522																						
2523	0	0	0	0	0	0	0	0	0	0	0	0	0 days	0 days		**Lightweight, Wearable Metal Rubber-Textile Sensor for In-Situ Lunar autonomous Health**	548 days?	10/1/08	4/1/10		No	
2524	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Metal Rubber-Textile Sensor:	548 days?	10/1/08	4/1/10		No	
2525	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Metal Rubber-Textile Sensor: Prototype	0 days	4/1/10	4/1/10		Yes	
2526																						
2527	0	0	0	0	0	0	0	0	0	0	0	0	0 days	0 days		**Wearable Health Monitoring Systems**	548 days?	10/1/08	4/1/10		No	
2528	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Wearable Health:	548 days?	10/1/08	4/1/10		No	
2529	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Wearable Health: Prototype	0 days	4/1/10	4/1/10		Yes	
2530																						
2531	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Which system is best for integrating IVA sensors?	0 days	4/1/10	4/1/10	2521FF,2525FF	Yes	
2532	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Utilize ISSP to certify or continue to Phase III for more development	3106 days?	4/1/10	10/1/18	2531	No	
2533																						
2534	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Inability to Adequately Treat Gap 24	0 days	7/2/18	7/2/18	2517FF,2531FF	Yes	Done with Gap
2535																						
2536	0	0	0	0	0	0	0	0	0	0	0	0	0 days	0 days		**Gap 25: (ExMC 5.01) Lack of medical data management infrastructure for Exploration Mission:**	731 days?	10/1/08	10/1/10		No	
2537																						
2538	0	0	0	0	0	0	0	0	0	0	0	0	0 days	0 days		**ExMC/Mission Medical Information System**	366 days?	10/1/08	10/1/09		No	
2539	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Mission Medical Information System	366 days?	10/1/08	10/1/09		No	
2540	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Mission Medical Information System: Queriable evidence base for HRP researchers	0 days	10/1/09	10/1/09	2539	Yes	
2541																						
2542	0	0	0	0	0	0	0	0	0	0	0	0	0 days	0 days		**ExMC/Life Sciences Data Archive**	731 days?	10/1/08	10/1/10		No	
2543	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		LSDA: Process/System Improvements	731 days?	10/1/08	10/1/10		No	
2544	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		LSDA: Integrated with other HRP Information Management flows and systems	0 days	10/1/10	10/1/10	2543	Yes	
2545																						
2546	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Inability to Adequately Treat Gap 25	0 days	10/1/10	10/1/10	2540FF,2544FF	Yes	Done with Gap
2547																						
2548	0	0	0	0	0	0	0	0	0	0	0	0	0 days	0 days		**Risk of Therapeutic Failure Due to Ineffectiveness of Medication**	3929 days?	4/1/07	1/1/18		No	
2549	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Pre-Lunar Therapeutic Failure	0 days	1/1/18	1/1/18	2573FF,2589FF	Yes	Done with Risk
2550																						
2551	0	0	0	0	0	0	0	0	0	0	0	0	0 days	0 days		**Gap 1: (PH7) What are the effects of spaceflight on pharmacokinetics / pharmacodynamics?**	2741 days?	4/1/07	10/1/14		No	
2552																						
2553	0	0	0	0	0	0	0	0	0	0	0	0	0 days	0 days		**Putcha PMZ Task**	733 days?	4/1/07	4/2/09		No	
2554	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Putcha PMZ ISS Study	550 days?	4/1/07	10/1/08	2555SS	No	
2555	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Putcha PMZ Initial Upmass to ISS	1 day?	4/1/07	4/1/07		No	
2556	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Putcha PMZ Analysis	183 days?	10/2/08	4/2/09	2554	No	
2557																						
2558	0	0	0	0	0	0	0	0	0	0	0	0	0 days	0 days		**Putcha Smart Pill:**	1463 days?	4/1/09	4/2/13		No	
2559	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Putcha Smart Pill: Lunar add on	1462 days?	4/1/09	4/1/13		No	
2560	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Putcha Smart Pill: bed rest add on	1462 days?	4/1/09	4/1/13		No	
2561	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Putcha Smart Pill: Information to HSRF	1 day?	4/2/13	4/2/13	2559,2560	No	Information to HSRF
2562																						



Project: IRPMonica4
Date: 1/9/09

Task | Split | Progress | Milestone | Summary | Project Summary | External Tasks | External Milestone | Deadline | Task | Task | Task | Task | Task | Task | Task | Task | Task | External Milestone | External Milestone | External Milestone

ID	Total Subjects Required	Propensity to Vounteer (1-5)	Volunteers/ Increment	Total Increments Required	Upmass/ Increment Subject	Downmass/ Increment Subject	Crew Time/ Increment Subject	BDC Time/ Increment	Jpmass /scremer	Downmass Increment (calc)	Crew Time/ Increment (calc)	Resources Exist?	IRP Duration	Duration ISS-Subjects Required	Resource Names	Task Name	Duration	Start	Finish	Predecessors	Milestone	Milestone Type
2563	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Putcha Drug Efficacy Studies, Data Mining Task**	**2010 days?**	**4/1/09**	**10/1/14**		**No**	
2564	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Putcha Drug Efficacy Studies, Data Mining	366 days?	4/1/09	4/1/10		No	
2565	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Putcha Drug Efficacy Studies, Data Mining: Drugs Ineffective?	0 days	4/1/10	4/1/10	2564	Yes	Decision Point
2566	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Putcha Drug Efficacy Studies: Flight Prep	275 days?	4/2/10	1/1/11	2565	No	
2567	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Putcha Drug Efficacy Studies, Data Mining In-flight PK/PD Study	1278 days?	1/2/11	7/2/14	2568SS,2566	No	
2568	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Putcha Drug Efficacy Studies, Data Mining Initial Upmass to ISS	1 day?	1/1/11	1/1/11		No	
2569	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Putcha Drug Efficacy Studies, Data Mining: Recommended changes to Flight Medicine	0 days	7/2/14	7/2/14	2567	Yes	Information to HSRF
2570	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Putcha Drug Efficacy Studies, Data Mining: Provide info to BHP gaps 2.2.2; 2.2.3	1 day?	7/3/14	7/3/14	2567	No	Information to other Elements
2571	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Putcha Drug Efficacy Studies, Data Mining Flight Analysis	91 days?	7/3/14	10/1/14	2567	No	
2572																						
2573	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Therapeutic Failure Gap 1	0 days	10/1/14	10/1/14	2556FF,2571FF	Yes	Done with Gap
2574																						
2575	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 2: (PH9) Stability of drug during long-duration spaceflight**	**3929 days?**	**4/1/07**	**1/1/18**		**No**	
2576																						
2577	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Putcha Stability SMO**	**823 days?**	**4/1/07**	**7/1/09**		**No**	
2578	12	5	3	4	0	0	0	0	0	0	0	1	0 days	720 days		Putcha Stability SMO ISS	732 days?	4/1/07	4/1/09	2579SS	No	
2579	0	0	0	#ERROR	0	0	0	0	0	0	0	1	0 days	0 days		Putcha Stability SMO Initial Upmass to ISS	1 day?	4/1/07	4/1/07		No	
2580	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Putcha Stability SMO Recommended ops changes to Flight Medicine	0 days	4/1/09	4/1/09	2578	Yes	Information to HSRF
2581	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Putcha Stability SMO Analysis	91 days?	4/2/09	7/1/09	2578	No	
2582																						
2583	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Development of methods/technologies for medication stability and shelf-life**	**3380 days?**	**10/1/08**	**1/1/18**		**No**	
2584	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Development of methods/technologies for medication stability and shelf-life: Ongoing Tech	1554 days?	10/1/08	1/1/13		No	
2585	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Development of methods/technologies for medication stability and shelf-life: Solicit	455 days?	1/2/13	4/1/14	2584	No	
2586	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Development of methods/technologies for medication stability and shelf-life: H/W dev't	1371 days?	4/2/14	1/1/18	2585	No	
2587	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Development of methods/technologies for medication stability and shelf-life: Technology at	0 days	1/1/18	1/1/18	2586	Yes	Informing Mission Ops
2588																						
2589	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Therapeutic Failure Gap 2	0 days	1/1/18	1/1/18	2581FF,2586	Yes	Done with Gap
2590																						
2591	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap 3: (PH6) Develop standard procedure for prospective analysis for proposed drugs for flig**	**825 days?**	**10/1/07**	**1/2/10**		**No**	
2592																						
2593	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Data Mining: Terrestrial Drug Database review**	**825 days?**	**10/1/07**	**1/2/10**		**No**	
2594	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Data Mining: Terrestrial Drug Database review DB Review	367 days?	10/1/07	10/1/08		No	
2595	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Data Mining: Terrestrial Drug Database review Dev Proc	458 days?	10/2/08	1/2/10	2594	No	
2596	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Data Mining: Terrestrial Drug Database review: Recommended ops changes to Flight Medi	0 days	1/2/10	1/2/10	2595	Yes	Information to HSRF
2597																						
2598	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Therapeutic Failure Gap 3	0 days	1/2/10	1/2/10	2596FF	Yes	Done with Gap
2599																						
2600																						
2601																						
2602	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Provide Infrastructure to Human Research Program**	**6210 days?**	**10/1/08**	**10/1/25**		**No**	
2603																						
2604	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Program Infrastructure**	**6210 days?**	**10/1/08**	**10/1/25**		**No**	
2605	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Program Infrastructure	0 days	10/1/25	10/1/25	2606FF,2607FF	Yes	
2606	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		ISSMP	4384 days?	10/1/08	10/1/20		No	
2607	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Analogs**	**4384 days?**	**10/1/08**	**10/1/20**		**No**	
2608	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Bed Rest	4384 days?	10/1/08	10/1/20		No	
2609	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		NEEMO	4384 days?	10/1/08	10/1/20		No	
2610	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		NSRL	4384 days?	10/1/08	10/1/20		No	
2611	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		PIO/SMO	6210 days?	10/1/08	10/1/25		No	
2612																						
2613	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**HHC Infrastructure**	**3657 days?**	**7/1/09**	**7/5/19**		**No**	
2614	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with Pre-Lunar HHC Infrastructure	1 day?	7/5/19	7/5/19	2634FF	Yes	
2615																						
2616	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Gap: (HHC1) Can partial gravity be simulated on Earth? (HHC2) How does 1/6-g or 3/8-g influe**	**3657 days?**	**7/1/09**	**7/5/19**		**No**	
2617																						
2618	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Platts CV Alterations during Lunar Missions**	**3657 days?**	**7/1/09**	**7/5/19**		**No**	
2619	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Platts CV Alterations Lunar: Lunar Bed Rest Add-on	1097 days?	7/1/09	7/1/12		No	
2620	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Platts CV Alterations Lunar: Lunar Bed Rest Add-on Analysis	93 days?	7/2/12	10/2/12	2619	No	
2621	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Platts CV Alterations Lunar: Lunar CM needed?	1 day?	10/3/12	10/3/12	2620	No	Decision Point
2622	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Platts CV Alterations Lunar: Update to HSRF regarding lunar gravity protective effects	1 day?	10/4/12	10/4/12	2621	No	Information to HSRF
2623	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Platts CV Alterations Lunar: Lunar Bed Rest CM Studies	2374 days?	10/4/12	4/4/19	2621	No	
2624	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Platts CV Alterations Lunar: Lunar Bed Rest CM Studies Analysis	91 days?	4/5/19	7/4/19	2623	No	
2625	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Platts CV Alterations Lunar: Select best CM	1 day?	7/5/19	7/5/19	2624	No	Decision Point
2626																						
2627																						
2628																						
2629	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0 days**	**0 days**		**Keller Thermoregulation and CV Response during Lunar Missions:**	**1464 days?**	**7/1/09**	**7/3/13**		**No**	
2630	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Keller Thermoregulation: Lunar Bed Rest Add-on	1371 days?	7/1/09	4/1/13		No	
2631	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Keller Thermoregulation: Lunar Bed Rest Add-on Analysis	92 days?	4/2/13	7/2/13	2630	No	
2632	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Keller Thermoregulation: Update to HSRF regarding lunar gravity protective effects	1 day?	7/3/13	7/3/13	2631	No	Information to HSRF
2633																						
2634	0	0	0	#ERROR	0	0	0	0	0	0	0	0	0 days	0 days		Done with HHC Infrastructure Gap	1 day?	7/5/19	7/5/19	2625FF,2632FF	Yes