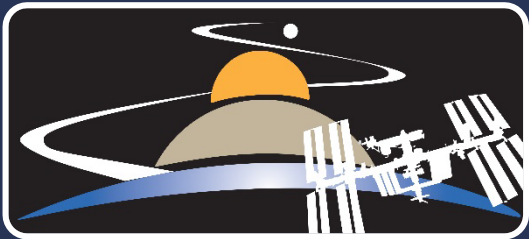


# UNIP



## Personnel & Team Management



**Exploration Research and Technology Programs**





- Team Design
  - What is a PM?
  - Role “Definition”
  - Training
- Communication
  - Expectation management
  - Performance Management & Feedback
  - Tools
    - Meetings & Tasking
    - Gantt Chart
    - Dashboard
    - Risk management



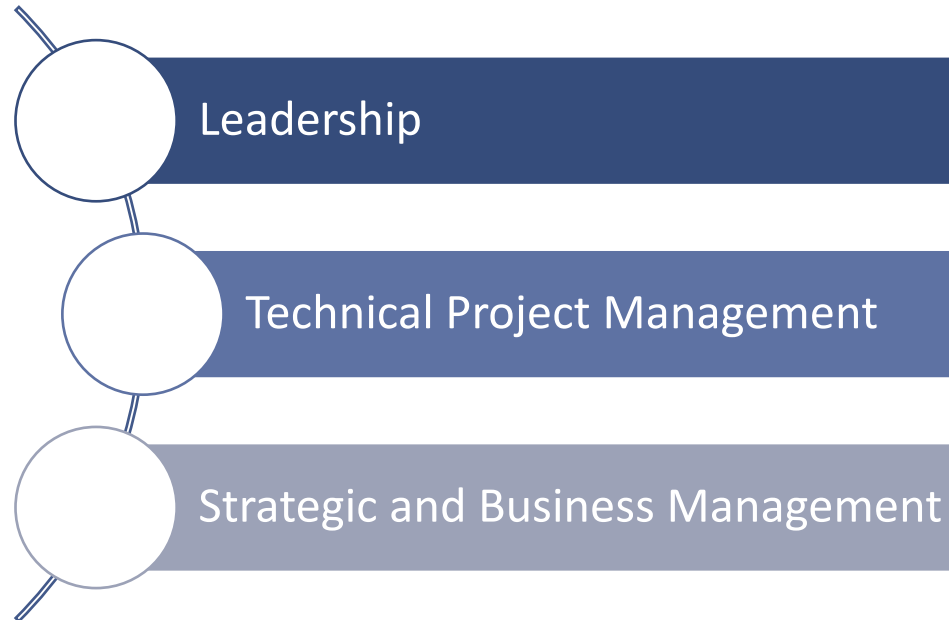
Lessons learned from mistakes & triumphs in **peer-to-peer management** for PMs, team leads, CEs, sub team leads, and really all team members.

## How do you do team management?



# Team Design

# UNP What is a Project Manager?



What is a project?

- Your satellite program
- And subsystems/sections/teams within your program

A Project Manager is the person that

- Is the belly button of the team
- Communicates inward and outward
- Keeps track of things
- Works with people.

“A professional who organizes, plans, and executes projects while working within restraints like budget and schedule” (Coursera, 2021)



## Functions of UNP *team leadership*

Communication  
with  
stakeholders

Translation of  
vision and  
requirements

Budgeting

Scheduling

Review  
coordination



## Functions of UNP *team leadership*





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Documentation tracking	Tasking	Training	Ensures progress	Risk Management
Issue management	Recruitment	Team communication	Conflict resolution	Feedback facilitation



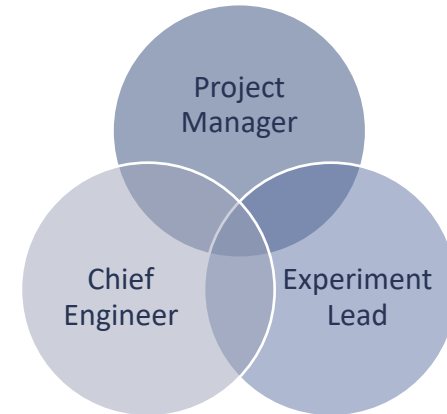
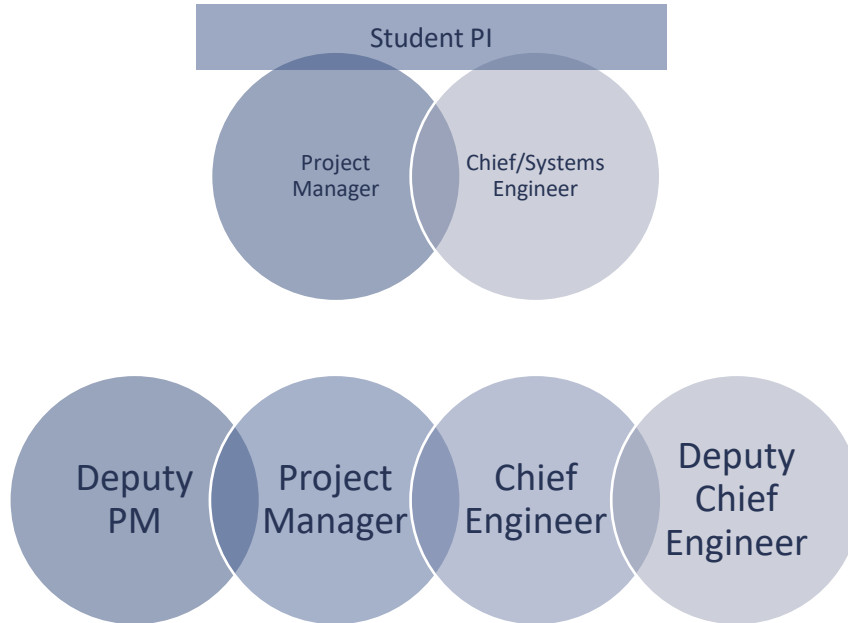
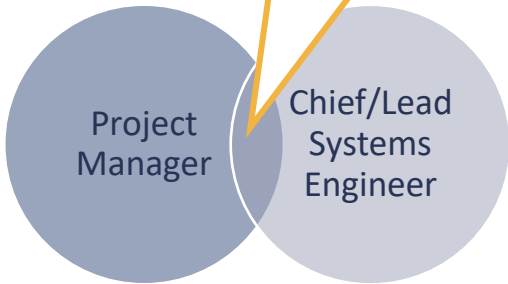
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Decision making	Teaming	Technical guidance	Lab management	Mentoring



## Leadership structures we've seen

Clearly identify which functions are split and which are shared!



No matter how you implement leadership, set expectations clearly.

# UNP Team Design - Leadership

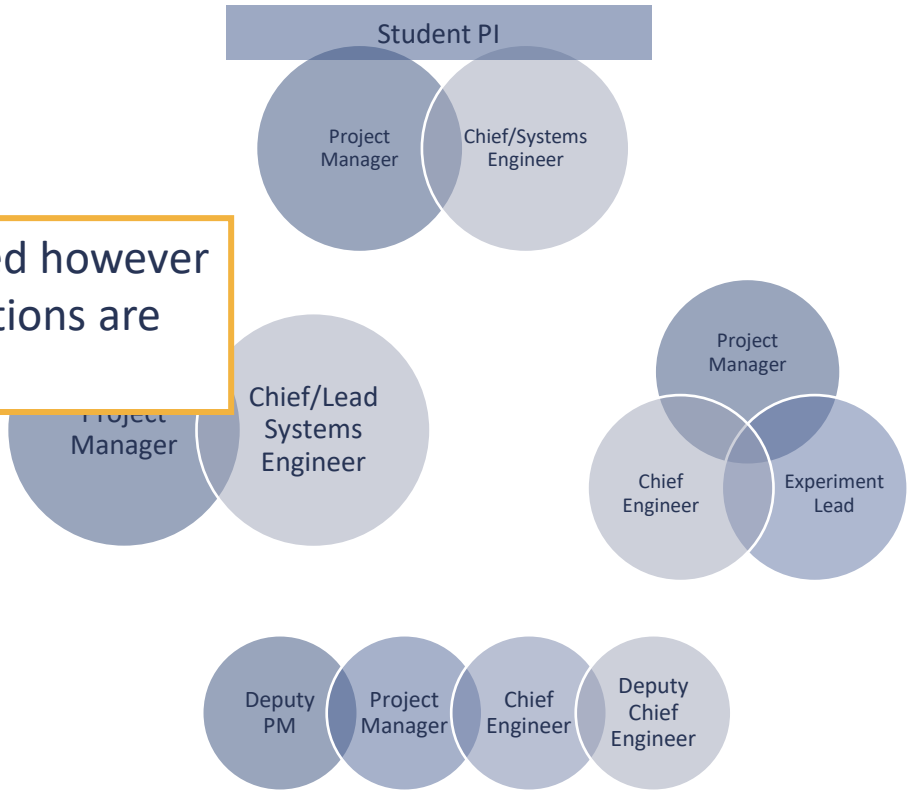


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Team structure can be designed however you want as long as all functions are being met.

## Leadership structures we've seen





## What makes a team?

### Knowledge Area Coverage

- Software Engineering
- Electrical Engineering
- Mechanical Engineering
- Computer Engineering
- Aerospace Engineering
- Systems Engineering
- Mission Research Area

### Subsystem Coverage

- Systems Engineering
- Software
- Ground systems
- Power subsystem
- Radio subsystem(s)
- Flight Computer subsystem
- Payload subsystem
- ADCS subsystem
- Structure & Support Equipment
- Electrical interface and ground equipment

### Functional Coverage

- Communication
- Facilities & Lab knowledge
- Test knowledge
- IT infrastructure & software tools
- Documentation & version control
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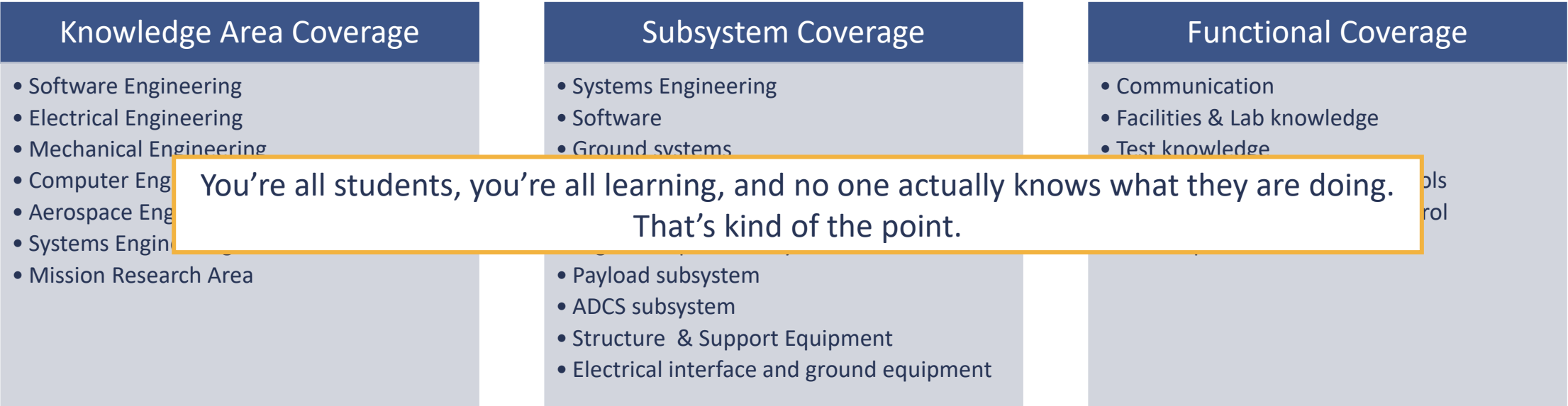
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Form follows function. Your team is not just people in chairs, but an assembly of capabilities!



What makes a team?



You're all students, you're all learning, and no one actually knows what they are doing. That's kind of the point.

Form follows function. Your team is not just people in chairs, but an assembly of capabilities!



The most productive, effective, and successful UNP teams often:

## “Gel”

- Try to recruit both for skill and team-ability
- You don't have to be best friends, but you have to collaborate, so try to like each other



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- Have fun with it!
- Work hard, Play hard! (the first part matters too)

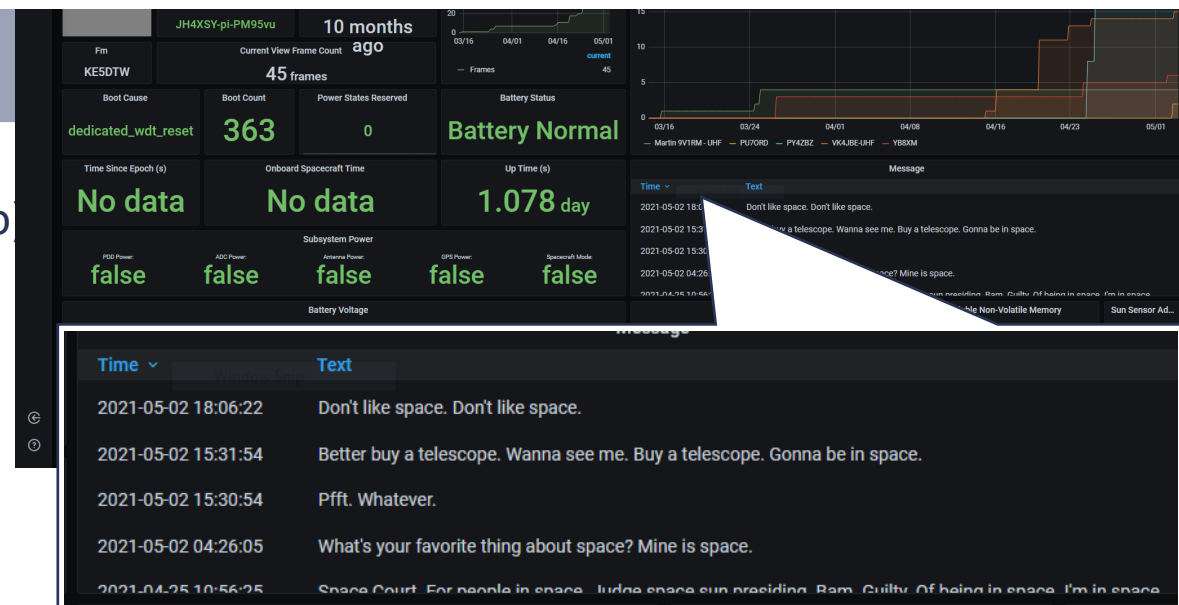
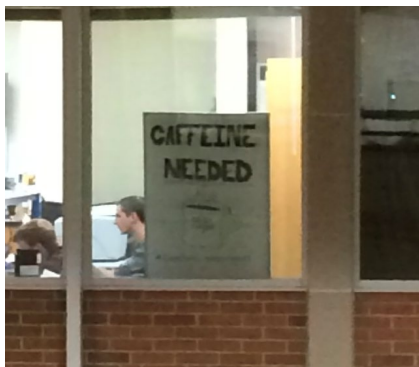
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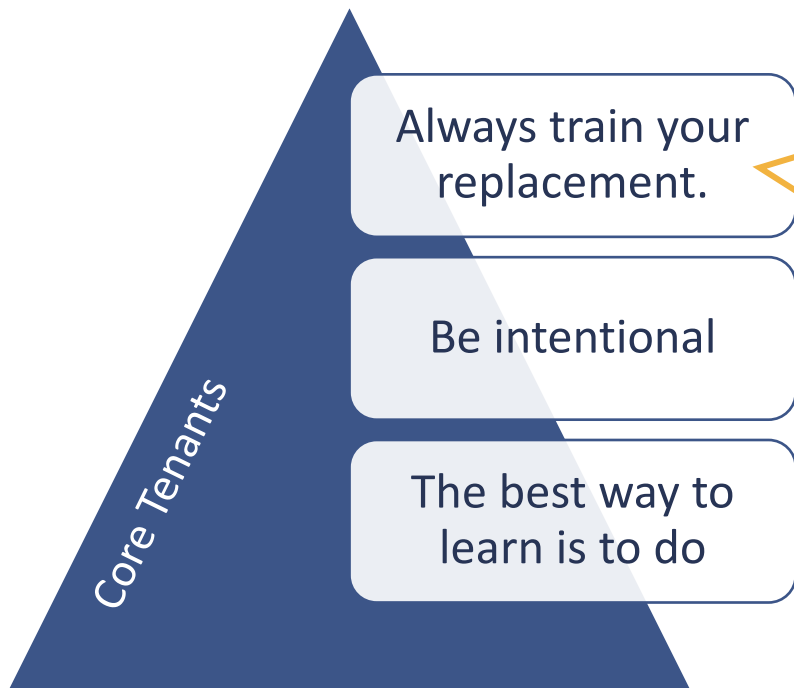
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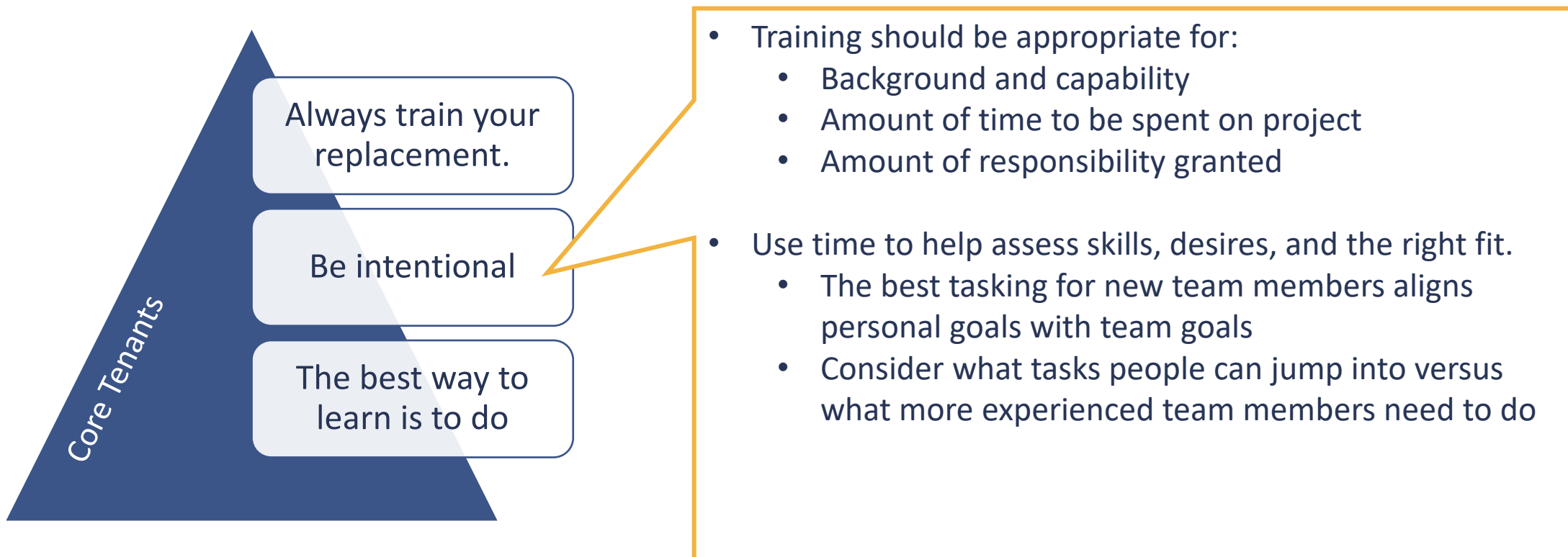
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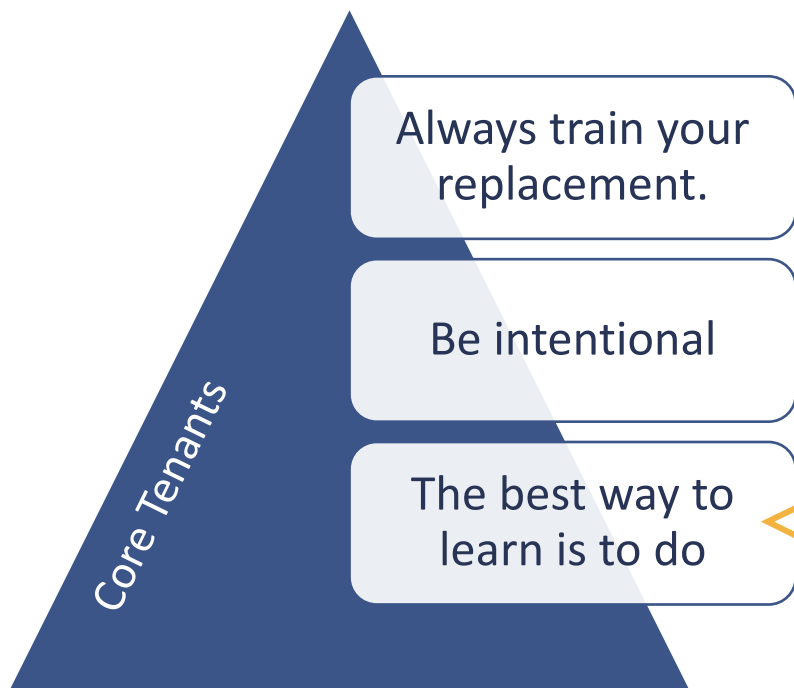


AFRL Images



- Single string knowledge is dangerous
  - If you were to leave the team, can they continue your work?
- “Training” doesn’t have to be brain dumps or shadowing, part of training is other hands-on responsibility
- Documentation matters.





- Keep systems robust enough to be “stupid-proof”
  - Very few things should be fragile enough that new people will break them
- Know what type of tasking should be done with experience.
  - Everything else should be fair game.
- Keep excitement high!



# Communication

# UNP Communication - Expectation Management Stakeholders



## Who are your external stakeholders?

- Principle Investigator
- University
- UNP
- End-customers
- Any other funding source
- Any other support source



Microsoft PowerPoint stock image

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## Communication Elements

- Establish communication expectations
- Establish requirements vs desirements
- Establish priorities
- Understand their stake
  - Guides decision making
  - Improves communication

When setting expectations upward/outward, you must balance attainable with interesting.



In order for the team to “rise to the challenge”, you need to identify the challenge.

## Responsibility

- Data products
- Requirements fulfillment
- Place in org-chart
- Scope of work

When setting expectations within the team, set expectations high but with realism.



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- Mentorship
- Training
- Teaching
- Outreach
- Personal Conduct

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## Engagement

- Attendance
- Hours
- Reporting
- Documentation
- Priorities

When setting expectations within the team, set expectations high but with realism.



- Consider:
  - What expectations are misaligned?
  - What is being done well?
  - What needs improvement? Why?
  - The more regular, honest feedback provided, the easier this is.
- Be Kind
- Address things early
- Listen first
- Re-baseline expectations.
- Do it.

A team lead's job is to facilitate an environment that the team can succeed within.

- Soliciting feedback
  - Formal & Informal
  - Routine & event-driven
- Providing feedback
  - Positive feedback
  - Critical Feedback
- Receiving feedback
  - Always have a receiving posture
  - Get a mentor(s)

qualtrics<sup>XM</sup>

 SurveyMonkey<sup>®</sup>



Like everything else in UNP, learning this now is good for future you!





twitter.com/skillfoxco/status/801953768975855617

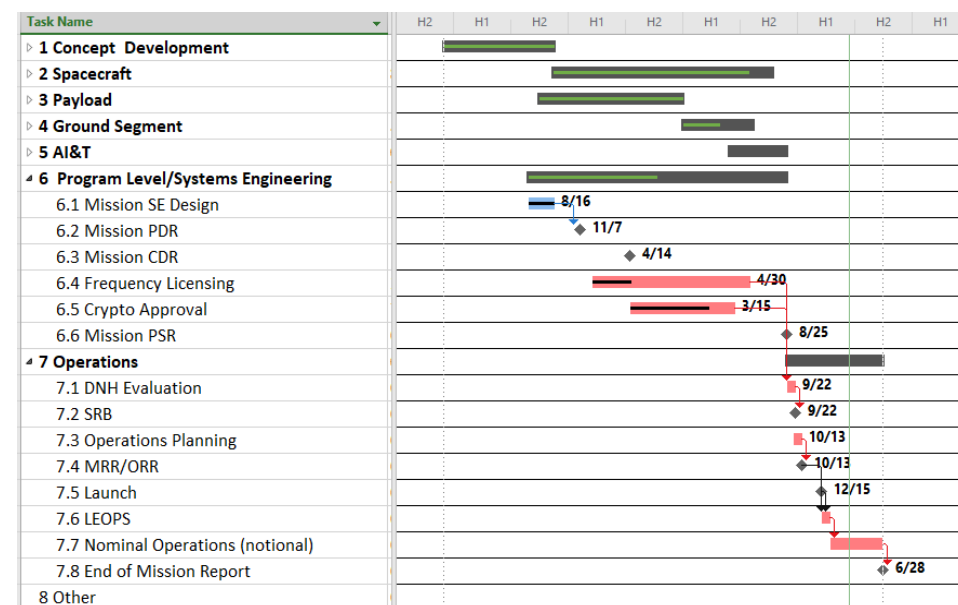
## Meetings should always have:

- Understood time, place, cadence
- Purpose
- Desired outcome
- Agenda (as appropriate)
- Attendance (and understanding of why people are there!)
- Expectations set early in discussion
- Timeliness



“Why should I do a schedule if it’s never right?” – me in UNP & beyond

- Communicate amount of effort
  - To Stakeholders
  - To your team
- Communicate interdependencies
- Communicate critical path
- Track progress!
- Tips
  - It doesn’t have to be super complex (but it can be)
  - Understand purpose
  - Use something easy to update





- A dashboard should be designed for status communication.

UNP will make you do one. It will look a bit like this.

Subsystem	Board/Component	Vendor	Avionics Concept Definition	Procurement		Unit Level Test		Subsystem Level Test		System Level Verification		
				Status	Rev No	Status	Rev No	Status	Rev No	Status	Rev No	
GlobalStar	EyeStar	Sinclair Interplanetary	Complete	Complete	1	Complete	1	Complete	2	Complete	2	will be used for flat
ADCS	GPS Novatel 729	Novatel	Complete	Complete	1	Not started	1	Not started	1	Not started	1	To be delivered ear
ADCS	Reaction Wheels	NanoAvionics	Complete	Complete	1	In progress	1	Not started	1	Not started	1	Will be integrated c
ADCS	BeagleBone Black Industrial	Various	Complete	Complete	3	Complete	1	Complete	1	Complete	1	

# UNP Communication Tools - Dashboard



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Or task tracking!



Dashboards can also be for Spacecraft Status

System Dashboard

Welcome to Jira

New to Jira? Check out the Jira User's Guide.

Assigned to Me

You currently have no issues assigned to you. Enjoy your day!

Activity Stream

Your Company JIRA

Today

- Brandon Shirley edited OpenVPN Management Interface Telemetry and Commands (view change) 9 minutes ago
- Brandon Shirley edited OpenVPN (view change) 22 minutes ago
- EXT Franklin Hinckley edited Solar Panel Vibe Verifications (view change) 27 minutes ago

Watched Issues

T	Key	Summary	P	Status
	RF-81	[SSG-010] Venting Area Ratio		IN REVIEW
<input checked="" type="checkbox"/>	SSDDEV-59	Test Task		NEW
<input checked="" type="checkbox"/>	RF-180	Globalstar Procurement Trade Study		COMPLETED

1-3 of 3

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## Key Considerations:

- Be clear on purpose
- Be consistent (time-consistent updating; don't play with the template for every release)
- Make it user friendly
- Integrate it into your process (don't make additional work)
- Only use it if it's useful



## Format

- Always be clear on purpose
- Always be clear about intended outcome
- “Bottom Line Up Front”



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Always approach with intent of “How can I make this most beneficial to the receiver?”



- Inform stakeholders (with backing and context) to avoid surprises
- Communicate with the team on what needs attention / mitigation
- Helps you decide where resources should go

Risk Tracking is a communication tool

# UNP Top Five Mistakes I've Made



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- Instead, clearly define roles and responsibility. Trust until proven otherwise.

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## Don't exclusively rely on messaging platforms

- Messaging platforms are good for some things, but not all (or even most)
- Easy to miscommunicate; face-to-face is valuable

# UNP Top Five Management Tricks



## Get good at baking

- Doesn't have to be baking. But find ways to show the team you appreciate them.

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- Establish feedback mechanisms
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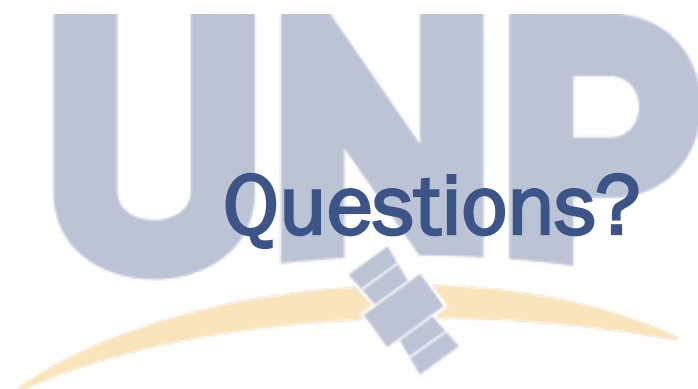
## Know your people

- Engage



# Remember . . .

You're all learning





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