ESCOLA POLITÉCNICA DA UNIVERSIDADE DE SÃO PAULO

PMI-5926

Application of ROVs to Petroleum and Mining Engineering

Class 04

Lab practice & Mission Teams (2017)

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Mission information

*The mission is to fly USP's **iara** ROV around the pool the identify feature such as:*

- *the current status of key valves to be opened or closed;*
- *to obtain one reading of the current water temperature from the digital sensor installed (protected).*

Mission information

Specific instructions will be provided at the time of your team's mission, but you will be required to at least:

a) *Understand the mission objective: to connect a system of pipes from* ***Point A*** *to* ***Point B***

b) *Navigate the* ***entire pool area***

c) *Check the* ***status of the valves*** *(open/close) that involved in the A-B system of pipes.*

d) ***Remove the protection*** *of the temperature sensor &* ***obtain a reading*** *of the current water temperature*

Mission information

In order to execute the assigned mission, each group will have to:

a) *Read the mission instructions and issue a **WORK PLAN** of the mission, including mission statement, available resources, execution time, and expected outcomes;*

b) *Run and record the details of a pre-flight **CHECKLIST** on the ROV;*

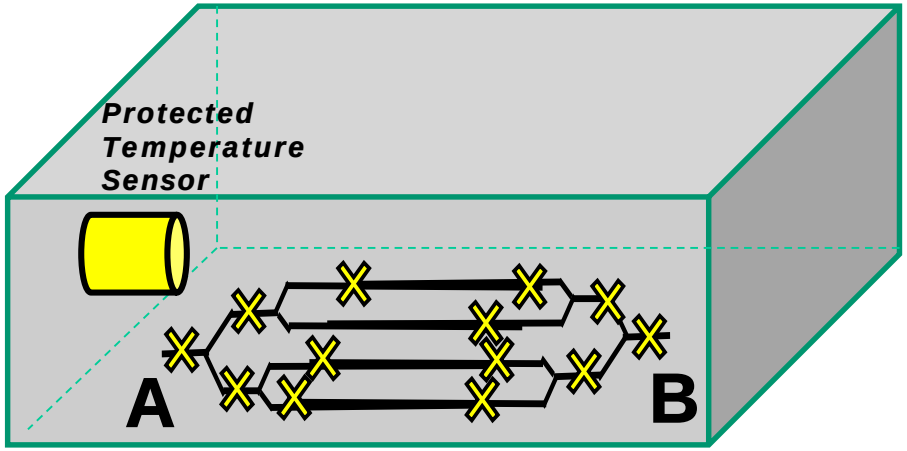
c) *Fly the ROV according to the work plan and record the flight activities into a **LOGBOOK**;*

d) *Issue a **WORK ORDER** based on the mission objective.*

Mission information

Pre-flight:

- Inspection Instructions
- (1) Work Plan
- (2) Pre-flight Checklist



Flight:

- Follow the work plan
- Fill in the mission logbook

Post-flight:

- (3) Work Order
- (4) Mission Logbook

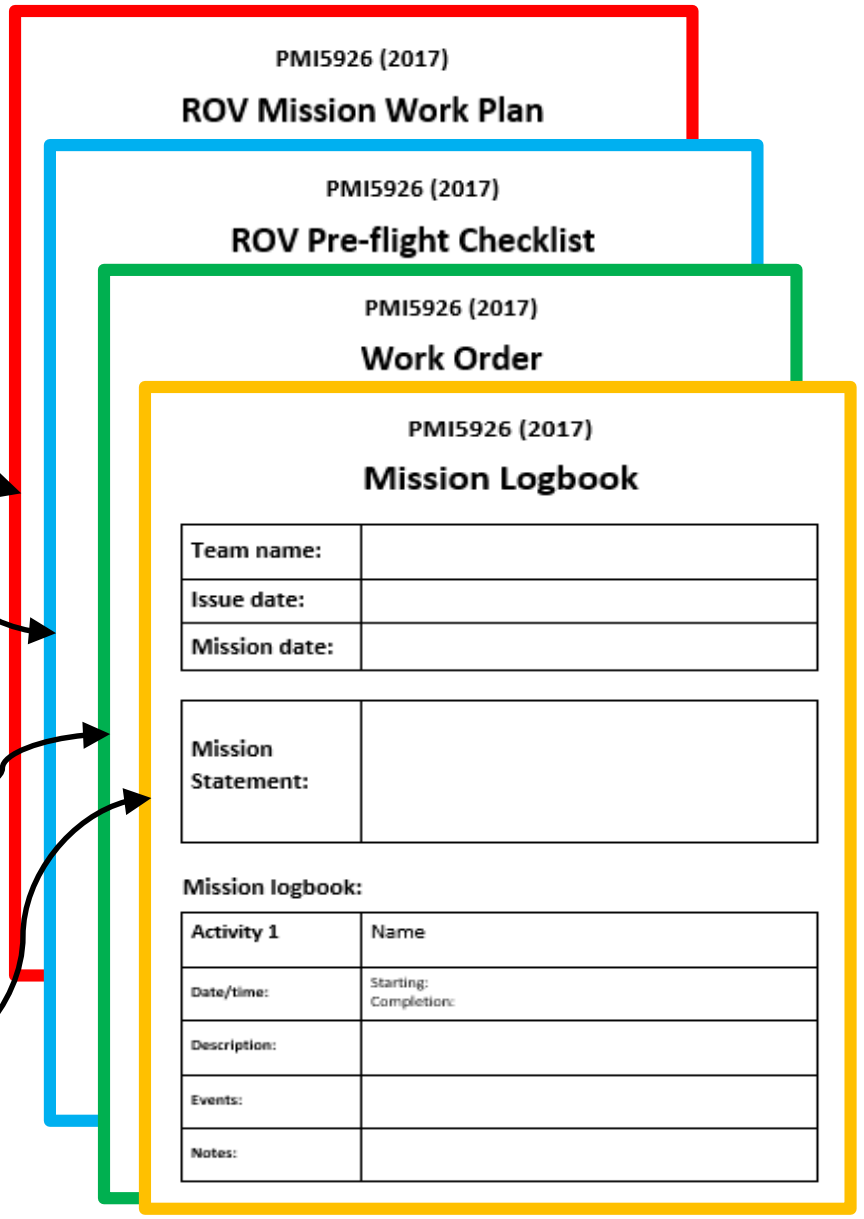
Mission outcomes

(1) Work Plan

(2) Pre-flight Checklist

(3) Work Order

(4) Mission Logbook



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ROV Mission Work Plan

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ROV Pre-flight Checklist

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Work Order

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Mission Logbook

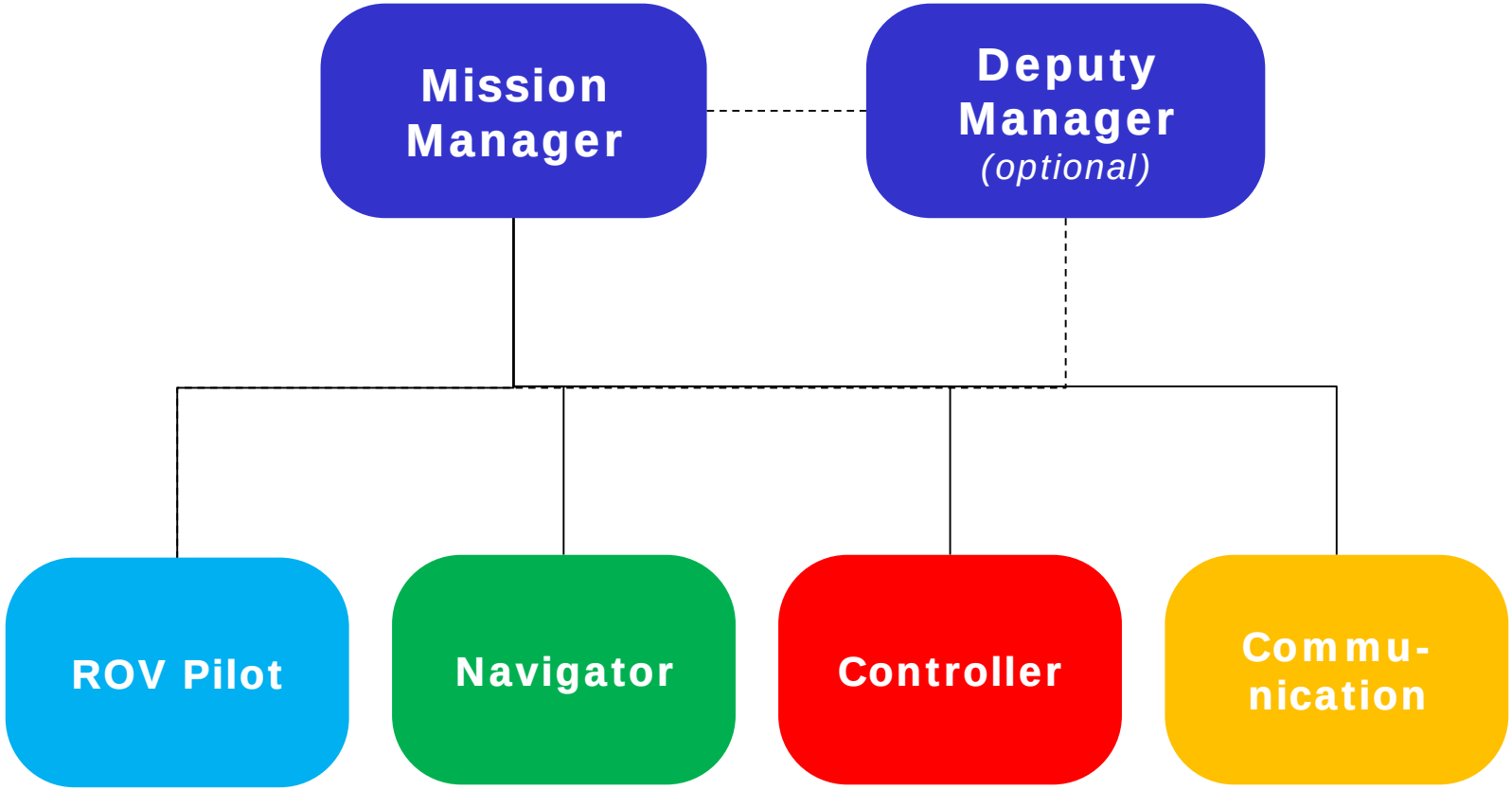
Team name:	
Issue date:	
Mission date:	

Mission Statement:	

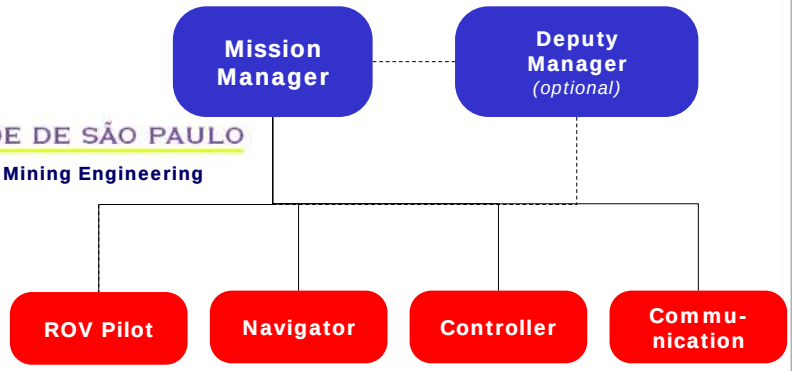
Mission logbook:

Activity 1	Name
Date/time:	Starting: Completion:
Description:	
Events:	
Notes:	

Mission team

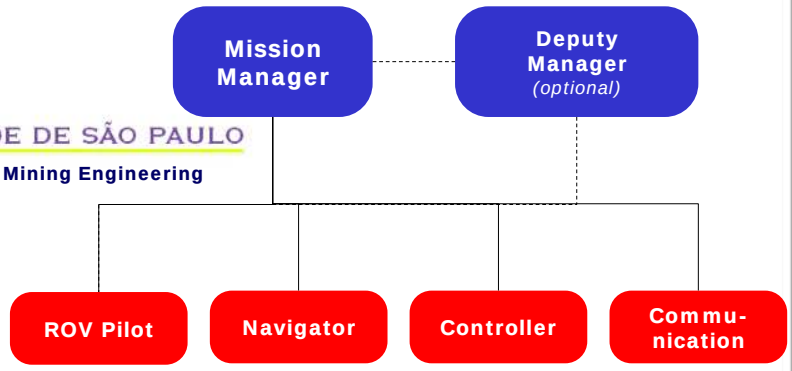


Mission team Responsibilities



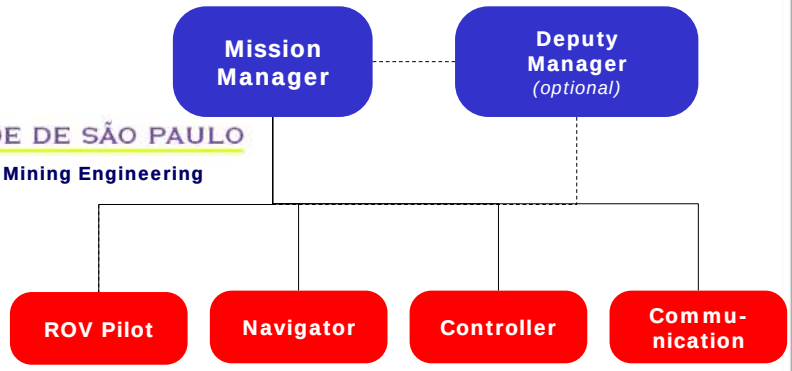
Mission outcomes

Role	Responsibility	Grade
Manager		
Deputy Manager		
Pilot		
Navigator		
Controller		
Communications		



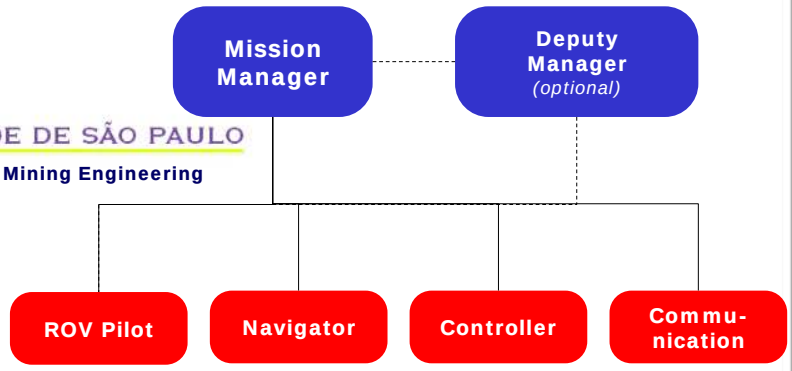
Mission outcomes

Role	Responsibility	Grade
Manager	Mission management	
Deputy Manager	Support the manager	
Pilot	Flying the ROV	
Navigator	Instruct the pilot	
Controller	Control the plan	
Communications	Record all info	



Mission outcomes

Role	Responsibility	Grade
Manager	Mission management	Team average
Deputy Manager	Support the manager	Work order (70%) + Team average (30%)
Pilot	Flying the ROV	Mission checklist
Navigator	Instruct the pilot	Work order
Controller	Control the plan	Work plan
Communications	Record all info	Mission logbook



Project teams (*)

Team name:	***(please be creative…)***
Manager:	
Deputy Manager:	
Pilot:	
Navigator:	
Controller:	
Communications:	

(*) Project teams to be confirmed by email to roger.goncalves@usp.br cc. to gdetomi@usp.br by 28/NOV/2017 @ 17:00

2017 COURSE SCHEDULE

AM	Nov 27th	Nov 28th	Nov 29th	Nov 30th
9:00 PM to 10:00 PM	Class 01 Introduction: course contents & schedule	Class 05 Case Study: ROV practical application	Class 07 Case Study: ROV simulation	Lab: ROV project G1 and G2
Break	Break	Break	Break	Break
10:30 PM to 11:30 PM	Class 02 What is an ROV: Classes & Applications	Class 06 2018 MATE ROV competition	Class 08 Case Study: ROV inspection	Lab: ROV project G3 and G4

PM	Nov 27th	Nov 28th	Nov 29th	Nov 30th
2:00 PM to 3:00 PM	Class 03 ROV Components Overview	Lab: ROV operation and navigation G1-3	Class 09 Lab: ROV operation and navigation G4-6	Lab: ROV project G5 and G6
Break	Break	Break	Break	Break
3:30 PM to 4:30 PM	Class 04 Lab visit and practice	Lab: ROV project practice G1-3	Class 10 Lab: ROV project practice G4-6	Class 11 Concluding remarks