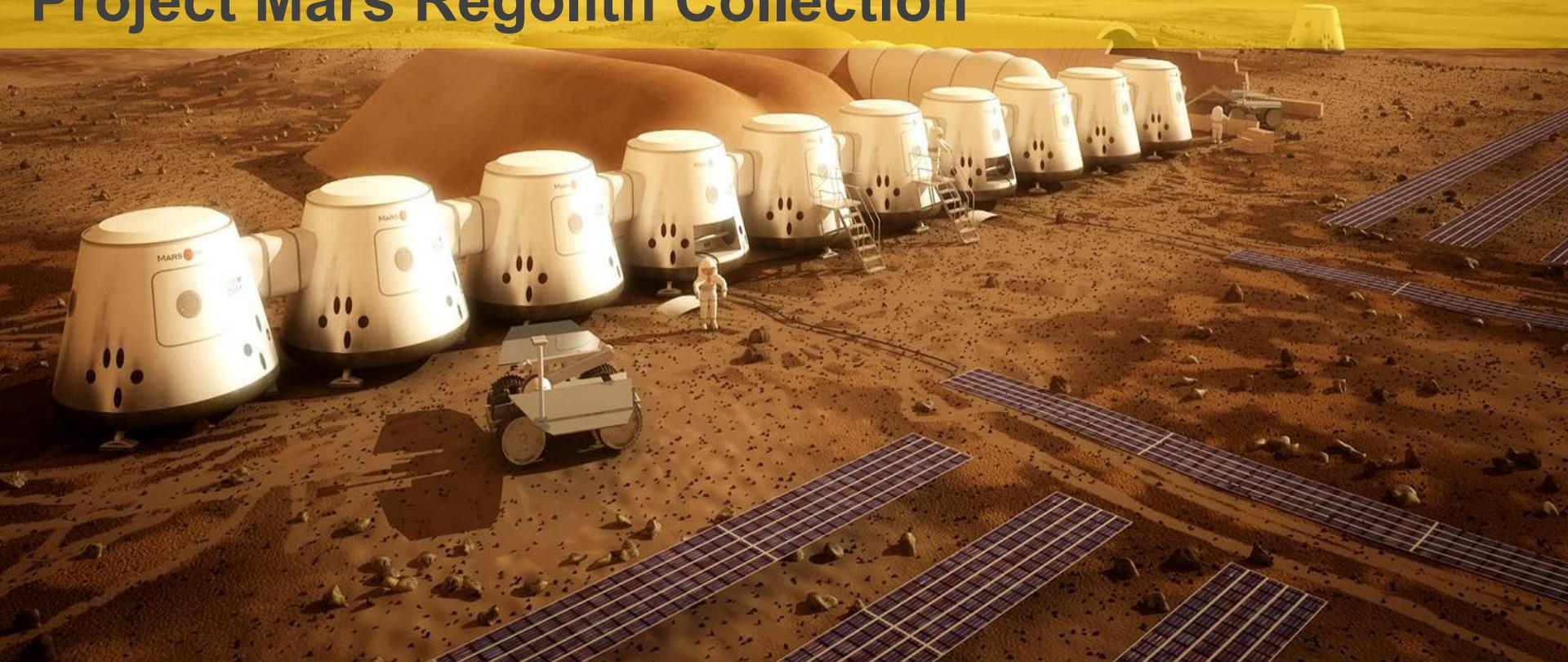


School of Minerals and Energy Resources Engineering ENGG1000 Project

Project Mars Regolith Collection



Project Mars Regolith Collection

What's on Today?

- Schedule
- Project details
- Groups / Mentors
- Questions

Quiz

1. What is the order of Mars from the Sun?

- a) 2
- b) 3
- c) 4

2. Size of the Mars

- a) Larger than Earth
- b) Smaller than Earth
- c) Same as Earth

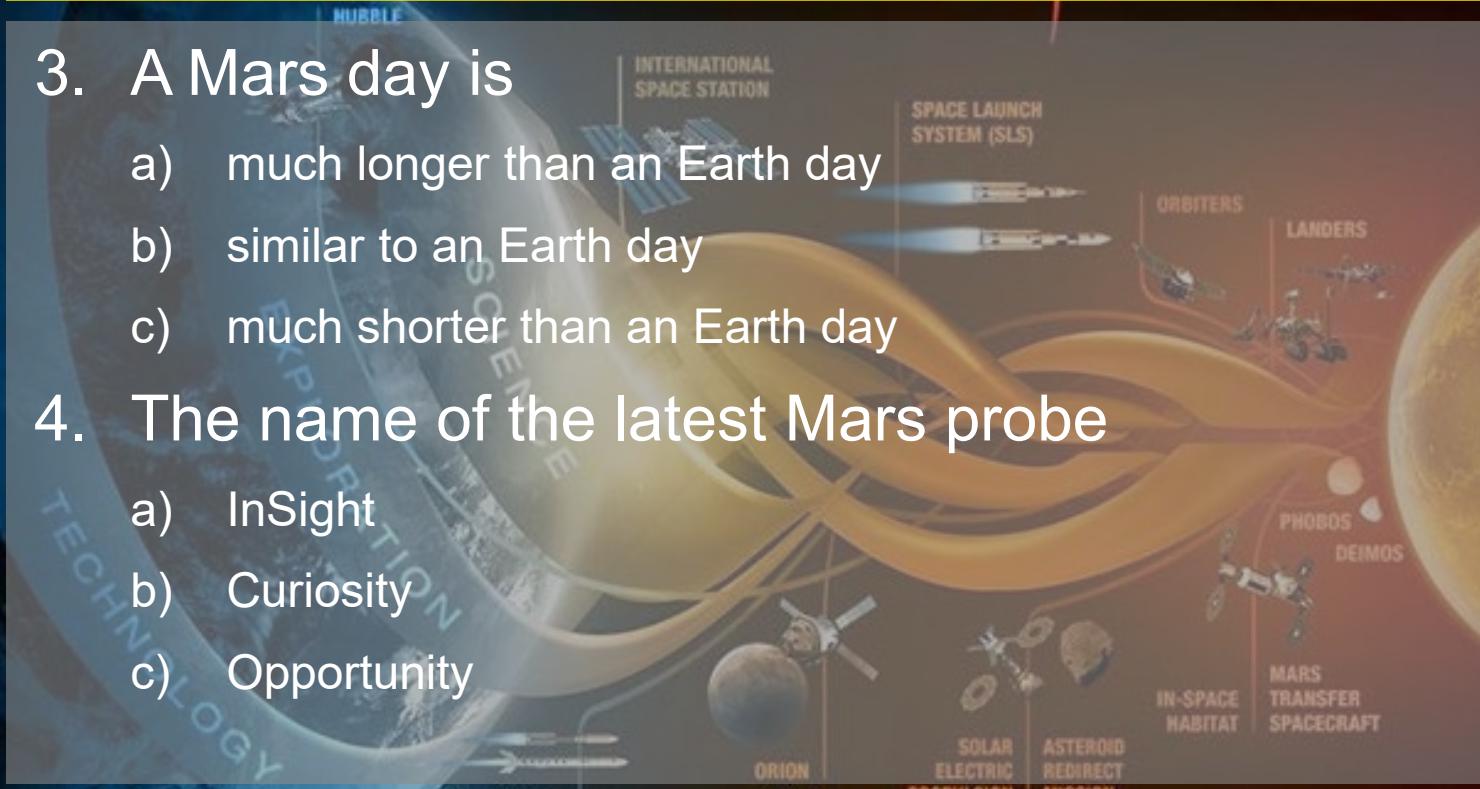


Quiz

JOURNEY TO MARS



3. A Mars day is
- a) much longer than an Earth day
 - b) similar to an Earth day
 - c) much shorter than an Earth day
4. The name of the latest Mars probe
- a) InSight
 - b) Curiosity
 - c) Opportunity



Schedule (1)

Week	Monday			Thursday			Assessment
	Time	Location	Activity	Time	Location	Activity	
0 - 10 Feb						Mentor training?	
1 - 17 Feb (13)	2-3pm	Clancy/ CLB7	Deans Lecture	2-3pm	Various	Faculty - Impromptu Design	
	3-4pm		3 minute project descriptions	3-4pm			
	4-5pm			4-5pm			
2 - 24 Feb (14)	2-3pm	Clancy	Faculty - Impromptu Design & Common Lecture- Problem Definition and Requirements Generation	2-3pm	Vall 121	Lecture - Arduino (1)	Writing exercise: impromptu design
	3-4pm	MathewThC	Project Introduction	3-4pm		Lab - Arduino (1)	
	4-5pm	Various	Mentor Meet and Greet	4-5pm	Various	Mentor Session	
3 - 2 Mar (15)	2-3pm	Clancy	Common Lecture	2-3pm	Vall 121	Lecture - Off Earth Mining (Porf Serkan Saydam)	
	3-4pm		Common Lecture	3-4pm		Guest Lecture, inclusive design (Euan Ramsey-Stewart); Safety work and Lab induction (Kanchana Gamage)	
	4-5pm	Various	Mentor Session	4-5pm	Various	Mentor Session	EDP: Problem Definition

Schedule (2)

Week	Monday			Thursday			Assessment
	Time	Location	Activity	Time	Location	Activity	
4 - 9 Mar (16)	2-3pm	Clancy	Common Lecture	2-3pm	Vall 121	Lecture - Arduino (2)	
	3-4pm		Common Lecture	3-4pm		Lab - Arduino (2)	
	4-5pm	Various	Mentor Session	4-5pm	Various	Mentor Session	
5 - 16 Mar (17)	2-3pm	Clancy	Common Lecture - Report Writing	2-3pm	Vall 121	Lecture Arduino (3)	
	3-4pm			3-4pm		Lab - Arduino (3)	
	4-5pm	Various	Mentor Session	4-5pm	Various	Mentor Session	EDP: Concept generation Presentation
6 - 23 Mar (18)	2-3pm	MathewsThC	Moon & Mars-environment and geology (Shopie/Michael?)	2-3pm	Vall 121	Guest Lecture? Build? Preparation of design proposal presentation?	
	3-4pm	AVIE	VR Demo	3-4pm	Vall 121		
	4-5pm	Various	Mentor Session	4-5pm	Various	Mentor Session	Design Journal 1 due Mon
7 - 30 Mar (19)	2-4pm	MathewsThC	Design proposal presentation (groups 1-5)/build (groups 6-10)	2-4pm	Vall 121	Design proposal presentation (groups 6-10)/build (groups 1-5)	
	4-5pm	Various	Mentor Session	4-5pm	Various	Mentor Session	Design proposal presentation and report (report due Monday)

Schedule (3)

Week	Monday			Thursday			Assessment
	Time	Location	Activity	Time	Location	Activity	
8 - 6 Apr (20)	2-4pm	MathewsThC	Build	2-4pm	Vall 121	Build	
	4-5pm	Various	Mentor Session	4-5pm	Various	Mentor Session	Design Journal 2 due Thur
9 - 13 Apr (21)	2-3pm	Various	Build	2-3pm	TBD	Testing	
	3-4pm	Various	Build	3-4pm	TBD	Testing	
	4-5pm	Various	Build	4-5pm	TBD	Testing	
10 - 20 Apr (22)			Build	2-5pm Competition			
11 - 29 Apr (23)							Final report due (Monday)

Other Technical Lectures

Electrical technical lectures

27-Feb	2-3pm	Technical Lecture	K-H13-G001 RC Theatre
	3-4pm	Labs	Laboratory
	4-5pm	Mentor Session	Mentor Room
5-Mar	2-3pm	Technical Lecture	K-H13-G001 RC Theatre
	3-4pm	Labs	Laboratory
	4-5pm	Mentor Session	Mentor Room
12-Mar	2-3pm	Technical Lecture	K-H13-G001 RC Theatre
	3-4pm	Labs	Laboratory
	4-5pm	Mentor Session	Mentor Room
19-Mar	2-3pm	Technical Lecture	K-H13-G001 RC Theatre
	3-4pm	Labs	Laboratory
	4-5pm	Mentor Session	Mentor Room

Mechanical technical lectures

12-Mar	2-3pm		
	3-4pm	Hardware Lab	Willis Annexe 116
	4-5pm	Mentor Session	Various

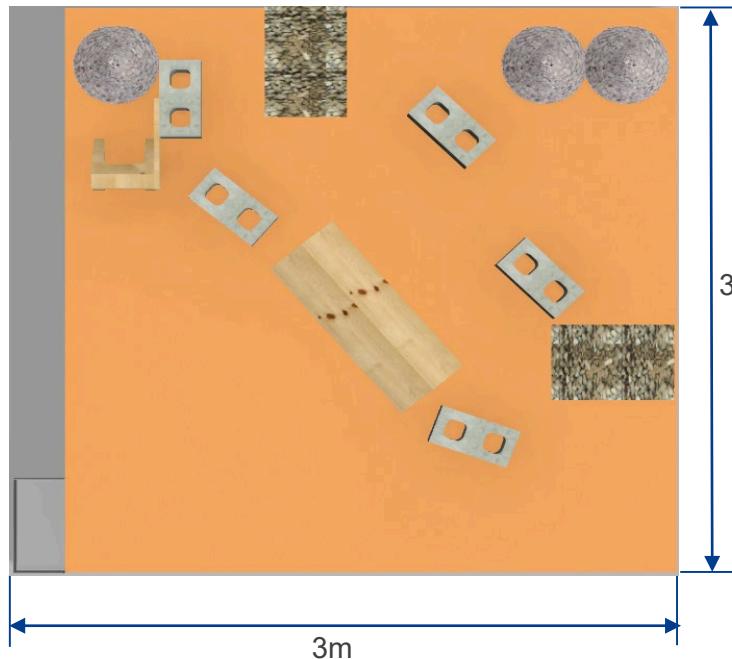
Project – Mars Regolith Collection

DESIGN OBJECTIVE

The objective of this project is for your team to design and build a prototype rover that is able to transport on a **Mars-like surface** and collect resources.

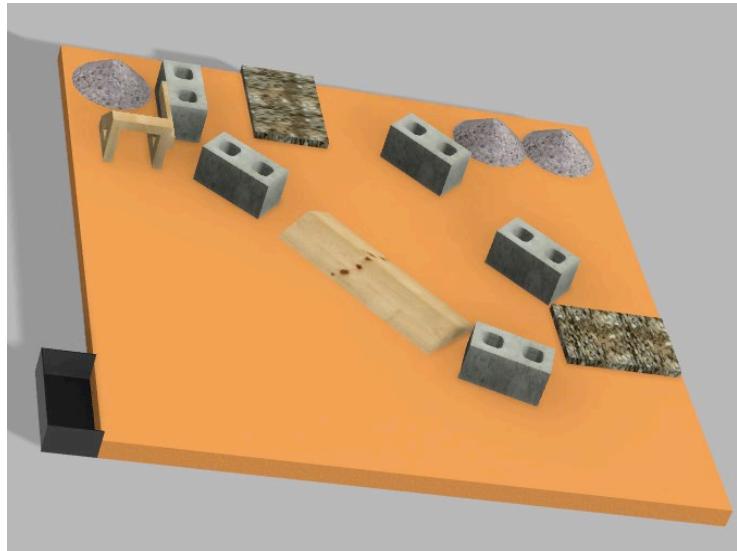


Mars Resource Collection map



Resource

3m



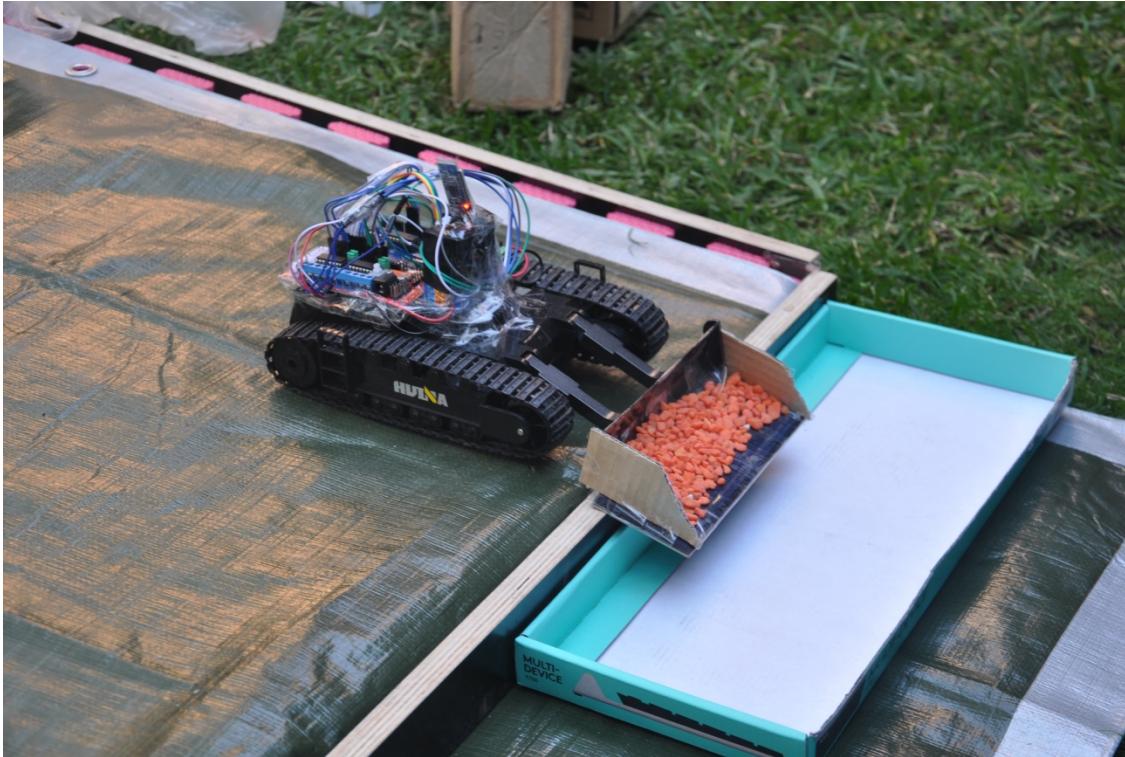
Project – Mars Regolith Collection



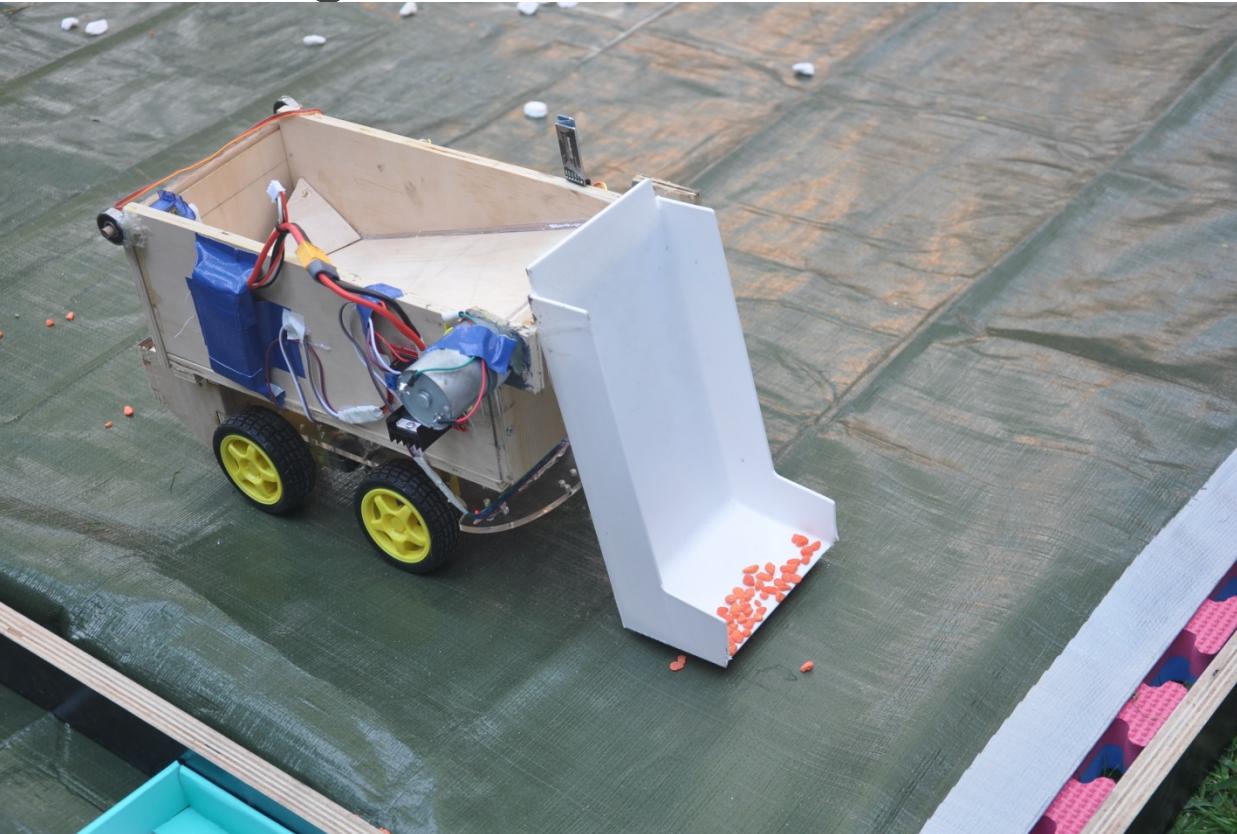
Project – Mars Regolith Collection



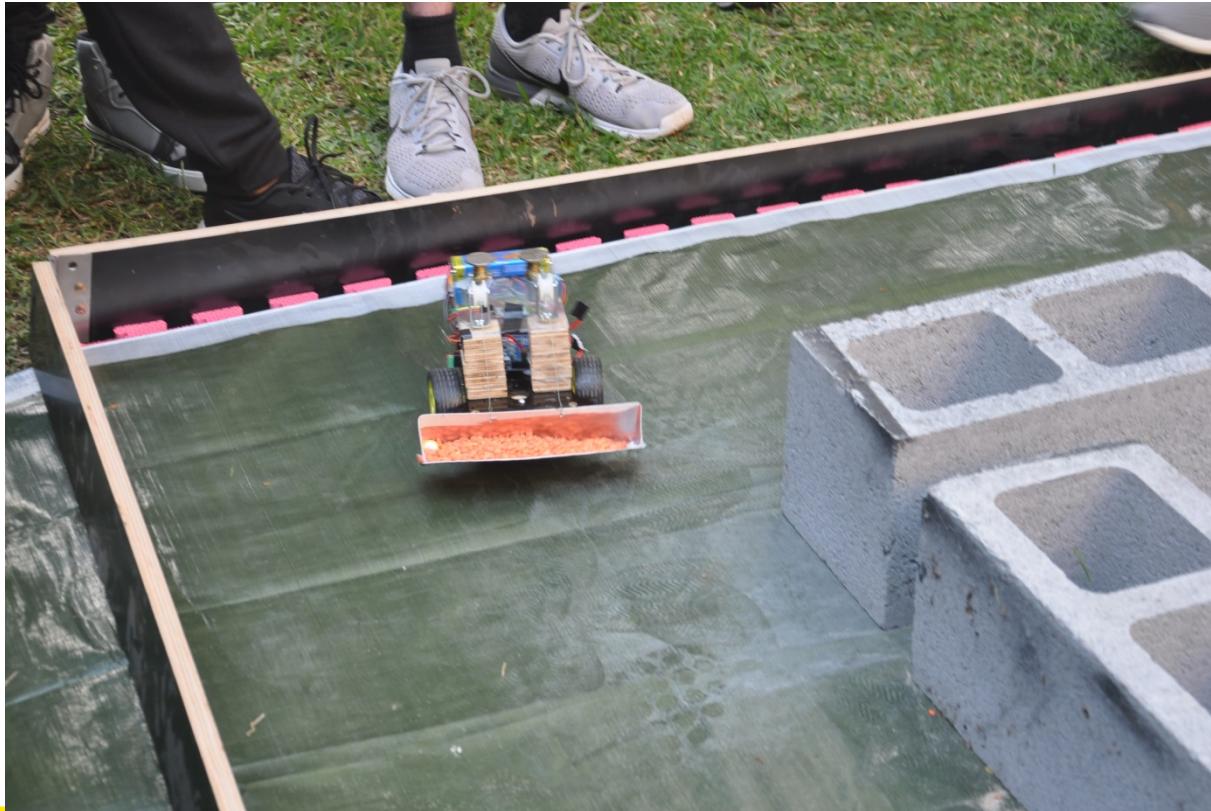
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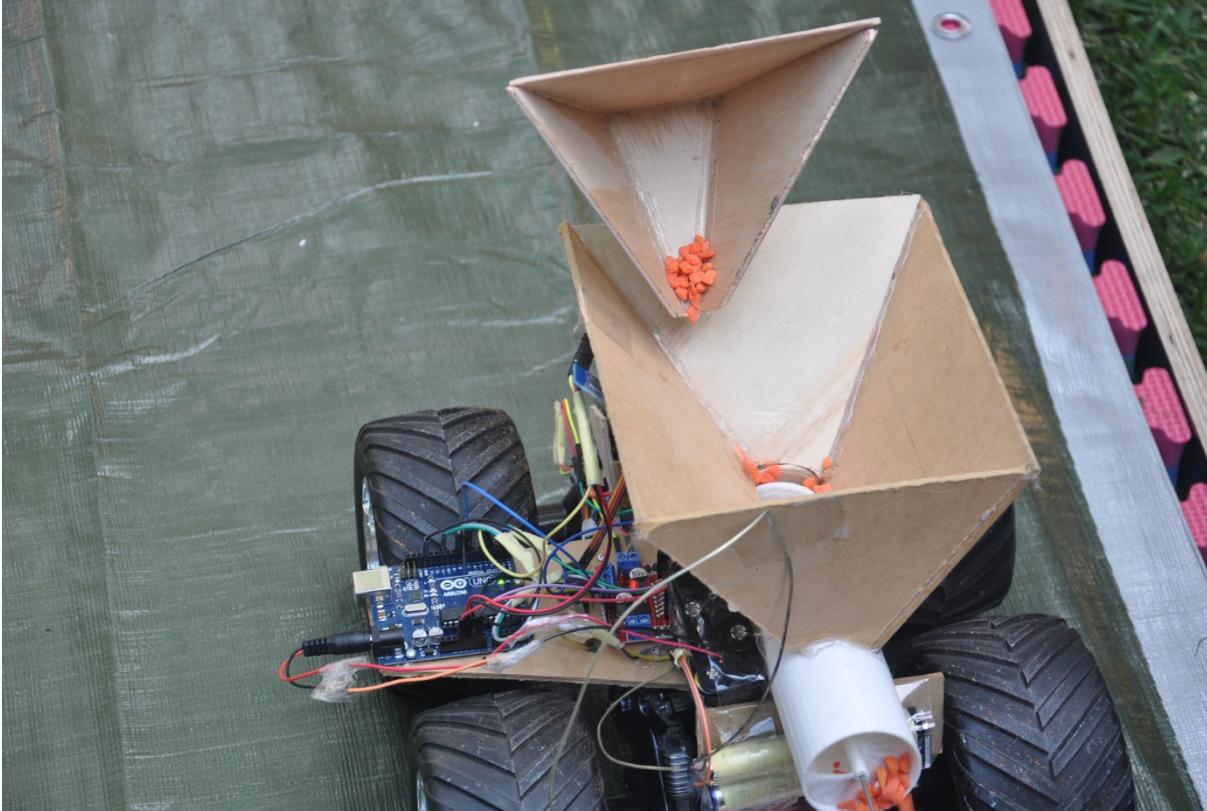
Project – Mars Regolith Collection



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Project – Mars Regolith Collection



Project – Mars Regolith Collection



Project – Mars Regolith Collection



Project – Mars Regolith Collection

Assessment:

Activity	Weighting	Contribution	Task	Due Date
Impromptu Design Activity	5%	Group	T1	Week 1
EDP - Problem Statement Assessment	5%	Group and individual	T2	Week 3
EDP - Concept Generation Assessment	5%+5%	Group and Individual	T3	Week 5
Design Proposal Presentation 15 minutes + 3 for questions and report	10% (presentation) 10% (report)	Group	T4	Week 7 Monday and Thursday
Design Journal	10%	Individual	T5	Week 6 Monday Week 8 Thursday
Testing of final design and competition	30%	Group	T6	Week 10 Thursday
Final Design Report	20%	Group	T7	Week 11 Monday
Peer assessment		individual		Week 11

Resources (1)



Sign up to the Makerspace Safety Induction by visiting www.making.unsw.edu.au
You will need to create a profile before you can sign up for the Makerspace Safety Badge.

Makerspaces



View all Makerspaces in the UNSW Makerspace Network. Find the right space for your project

[FIND A MAKERSPACE](#)

Machines



View the Makerspace Network machine database. Search by location, material or Badge

[FIND A MACHINE](#)

Makerspace Safety Badge



Complete your **Makerspace Safety Induction Badge** to gain Makerspace access

[START BADGE](#)

What Are Badges?

To gain access to the UNSW Makerspace Network users need to earn access Badges. The first badge you need to complete is the Makerspace Safety Badge (MS Badge).

Badging is how we ensure UNSW Making users have the skills to safely and efficiently use our network of materials, machines and spaces.

Earn badges by first completing associated online learning components followed by in-person Badge Training.

[VIEW ALL BADGES](#)

Upcoming Training

11 FEB	DF Digital Fabrication Badge DigFab Lab (laser cutting), 1:30 p.m. - 3 p.m. Design Futures Lab 8 Seats Left
12 FEB	MS Makerspace Safety Induction Badge Wood Workshop, 9:30 a.m. - 12:30 p.m. Design Futures Lab 3 Seats Left
12 FEB	DF Digital Fabrication Badge DigFab Lab (laser cutting), 1:30 p.m. - 3 p.m. Design Futures Lab 7 Seats Left

[VIEW MORE TRAINING](#)

Resources (1)

Sign up to the
Makerspace Safety
Induction by visiting
www.making.unsw.edu.au

You will need to create
a profile before you
can sign up for the
Makerspace Safety
Badge.

Our Badges

Click on each Badge to view in-depth course information and self-enrol.



MAKERSPACE
SAFETY INDUCTION

Entry level induction to Makerspace Network

[more](#)



DIGITAL
FABRICATION

Digital Fabrication Badge introduces users to Laser Cutting and 3D Printing

[more](#)



LASER CUTTING
(ENG)

Learn to Laser Cut

[more](#)



CNC MONITOR

This Badge allows you to monitor your projects running on CNC's

[more](#)



ADVANCED
ARDUINO

Advanced Arduino workshop

[more](#)



ARDUINO

Arduino introduction and basics

[more](#)



ADVANCED
CAD

Advanced CAD skills following from CAD Badge Training

[more](#)



CAD

CAD introduction and basics

[more](#)



CREATIVE
CONFIDENCE

Learn key creativity techniques to assist with your ideation and human centred problem solving

[more](#)

Our Makerspaces



DESIGN
FUTURES
LAB

B

Design Futures Lab

Part of the Faculty of Built Environment, this lab aims to inspire exploration, innovation and research into fabrication, emerging technologies and design theories.

[VISIT MAKERSPACE](#)



JAMES N. KIRBY
eng
MAKERSPACE

James N Kirby Makerspace

Part of the Faculty of Engineering, the James N Kirby Makerspace specialises in manufacturing and fabrication of metals, plastics and woods.

[VISIT MAKERSPACE](#)



FO
UN
DERS
MCIC
Foundations

MCIC

Part of UNSW Founders Program, the Michael Crouch Innovation Centre (MCIC) specialises in prototyping for start-up ideas and entrepreneurial activities.

[VISIT MAKERSPACE](#)



RENEWABLES
eng
MAKERSPACE

Renewables Makerspace

Part of the Faculty of Engineering, the Renewables Makerspace specialises in electronics and prototyping.

[VISIT MAKERSPACE](#)



ELEC
eng
MAKERSPACE

Electrical Engineering Makerspace

Part of the Faculty of Engineering, the newly opened Electrical Engineering Makerspace acts as the 3D Printing and Robotics hub of the Makerspace Network.

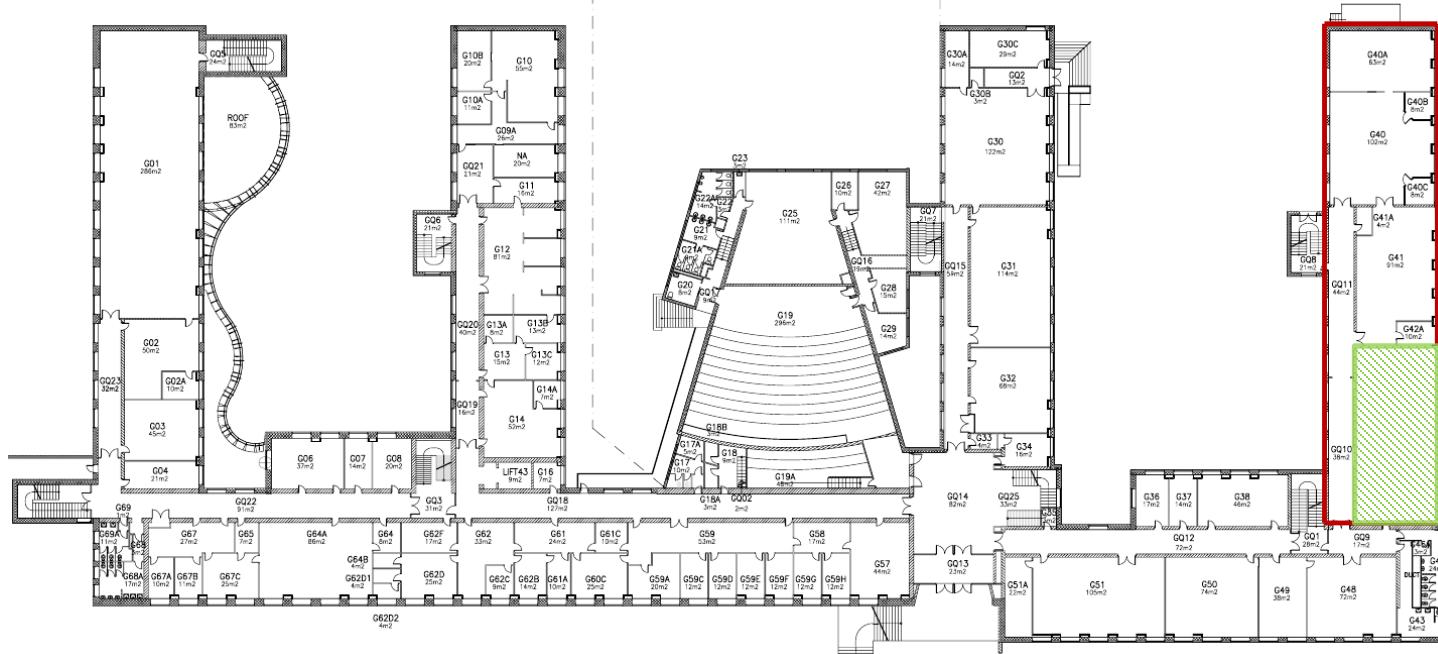
[VISIT MAKERSPACE](#)



UNSW
SYDNEY

Resources (2)

Mining Lab K15, G42 Mr. Kanchana Gamage



Teams 1-3

Mon K-J12-307 - Newt 307
Thu K-E15-G048 - Quad G048

Mentor: Stephanie Kan
s.kan@student.unsw.edu.au

Team 1

Username	First name	Surname
z5191422	Mowisha	Danchaiviroj
z5312670	Daniel	Glinatsis
z5308745	James	Pinnington
z5309365	Scott	Purves
z5210195	Joylynn	Taylor
z5313389	Yi Jun	Wang

Team 2

Username	First name	Surname
z5294709	Faisal	Alromaih
z5313176	Liam	Greenbury
z5304780	Marcus	Lim
z5308850	Kunal	Pradhan
z5270842	Xuehan	Tu
z5310150	Angela	Zhong

Team 3

Username	First name	Surname
z5310065	Fahad	Al Maraee
z5118127	Chantelle	Conlon Scoullar
z5320139	Tasneem	Fatima
z5277179	Kareendra	Gomes
z5311213	Liam	Graham
z5310562	Jackie	Wang

Teams 4-6

Mon K-E15-G054 - Quad G054
Thu K-E15-1049 - Quad 1049

Mentor: Amar Rafee
z5097397@student.unsw.edu.au

Team 4

Username	First name	Surname
z5312431	Joshua	Foley
z5312754	Mark	Hampson
z5313315	Linda	Jing
z5316025	Joseph	Logozzo
z5312111	Jennifer	Tran
z5270854	Haokai	Yin

Team 5

Username	First name	Surname
z5309952	Jemma Lee	Dickson
z5190351	Mark	Ho
z5267415	Charlie	Knight
z5311907	Ryan	Oong
z5312875	Shamyu	Pradhan
z5259927	Veronica	Wenn

Team 6

Username	First name	Surname
z5316671	Joshua	Chapman
z5313327	Le	Huang
z5254815	Aryan	Karwal
z5311204	Jonathan	Perumal
z5312848	Ryan	Reznikov
z5309926	Rosanna	Xu

Teams 7,8

Mon K-G14-252 - Webst 252
Thu K-E15-G042 - Quad G042

Mentor: Sarvesh
Singhsarveshkumar.singh@unsw.edu.au

Team 7

Username	First name	Surname
z5310162	Eliza	Dang
z5257593	Shiran	Elilvathanan
z5309076	Finn	Prince
z5316569	Isha	Shroff
z5312660	Hugo	Sullivan
z5295022	Jiajun	Yang

Team 8

Username	First name	Surname
z5312911	Milan	Joseph Thomas
z5309628	Holly	Prior
z5311691	William	Wan
z5309036	Anthony	Willis
z5309537	Carolyn	Yang

Teams 9, 10

Mon K-E4-208 - Sqhouse208
Thu K-E15-G055 - Quad G055

Mentor: Mitchell Torok
mitchell.torok@student.unsw.edu.au

Team 9

Username	First name	Surname
z5311592	Zac	Albert
z5312871	Kinnaree	Evans
z5317123	Rohan	Jurado
z5161502	Michael	Lloyd
z5308608	Ronnie	Och
z5308628	Indie	Rattanawan

Team 10

Username	First name	Surname
z5320020	Anthony	Do
z5317550	Coline	Lu
z5312165	Cody	McCarney
z5309996	Daniel	Padoani
z5161764	Daniel	Sharp
z5310212	Christopher	Tsang

Off Earth Mining

