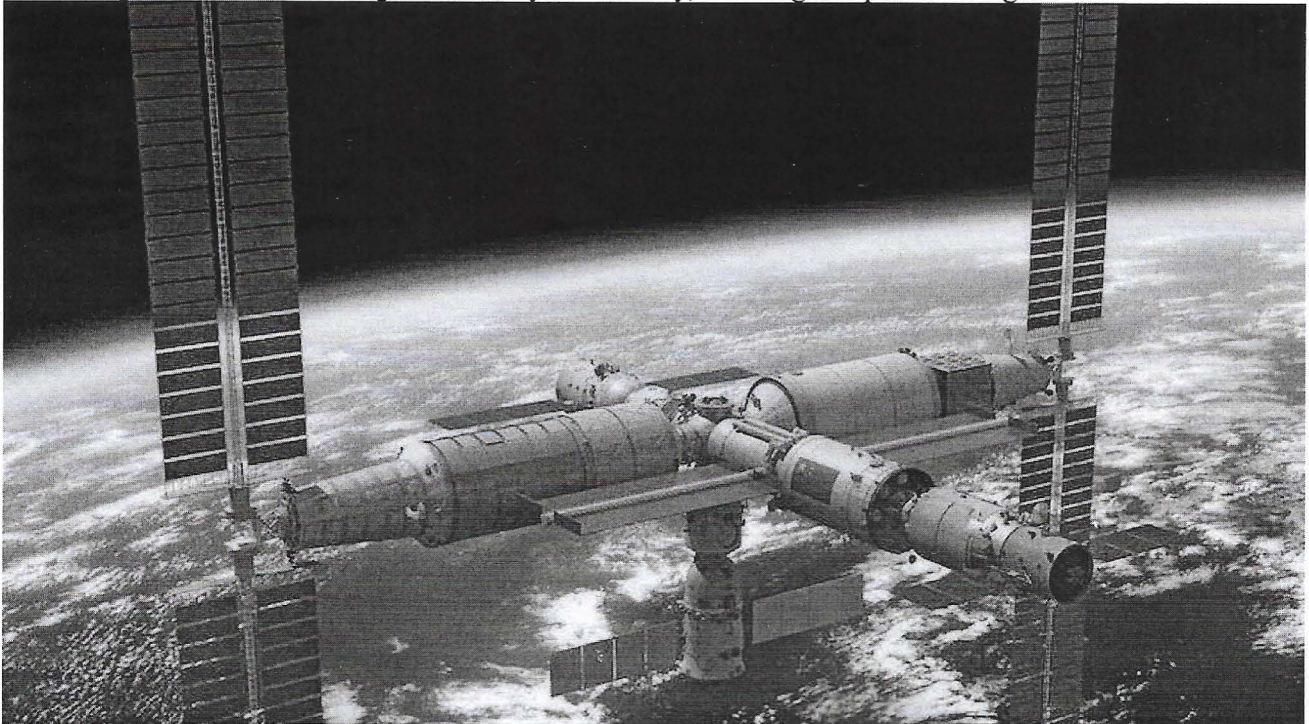


Gathering Information: Things Necessary of Healthy, Prolonged Space Living



Food Stuff's

Vitamins A, C, D & E

Vitamins B1, B2, Niacin, B6, Folic Acid, B12, Biotin

Minerals: Calcium, Iodine, Magnesium, **ZINC**, Selenium, Copper, Manganese, Chromium, Silica, Iron.

Others: Choline, Inositol, Pantothenic Acid, PABA.

Amino acids (e.g. milk products)

Carbohydrates

Omega-3 Oils

NH₄NO₃ salts

For fertilizers:-

- Can provide nutrients for vegetation growth (in low concentration of oxygen around station)

For explosive propulsion:-

NH₄NO₃ + **ZINC** powder + NaCl + water – makes combustion without further needs of oxygen

NH₄NO₃ – provide the oxygen needed and complete combustion explosively.

Note that this reaction produces toxic gases; but it's fine if the gases are also expelled.

For breathable air and water vital for space survival:-

- breathable air is composed of 79% nitrogen, 21% oxygen, and 1% argon.
- If 2NH₄NO₃ is somehow decomposable into parts, it can produce 2N₂ + O₂ + 4H₂O
- The ratios between produced nitrogen and oxygen is 66.7% and 33.3%. We only need to burn current amounts of oxygen (not difficult), we can lower the oxygen content to achieve the optimal nitrogen-oxygen ratios of (79% nitrogen: 21% oxygen). Add a little Argon, and OK. **How to decompose NH₄NO₃ into N₂, O₂, and H₂O is an unsolved problem yet.*

Fung Ho Pang

July 21, 2020

Hong Kong (852) 6767-7761