2021 Schedule:

1/4: Week 0 [3 lectures]:
- 0.1 Introduction and Organization (YY)
- 0.2 Group Discussion: How and Why to Study Astrobiology (led by all, interactive)
- 0.3 Overview of Astrobiology: Expectations, Standards and Dreams (YY)

1/11: Week 1 [3 lectures] Summaries of the origins of the universe, solar system and Earth
- 1.1 The Birth of the Universe (YY)
- 1.2 The Early Solar System (YY)
- 1.3 Paleo-Earth (YY)

1/18: Week 2 [2 lectures, Monday holiday]: **Begin 'chemistry' Unit 1** (YY + guest lectures)
- 2.1 Holiday / No Lecture
- 2.2 Unit 1.1: Origins of Life I: The RNA world (YY)
- 2.3 Unit 1.2: Origins of life II: Clays, wet/dry cycles, geothermal pools (YY)

1/25: Week 3 [2 lectures, Friday student presentations]:
- 3.1 Unit 1.3: Danica "Prebiotic Chemistry at Early Earth and Mars" Guest Lecture
- 3.2 Unit 1.4: Laurie Barge "Chemical Gardens" Guest Lecture?
- 3.3 Unit 1.5: Jiazheng "Life on Europa?" Guest Lecture

2/1: Week 4 [3 lectures]:
- 4.1 Unit 1 Review: student presentations extremophiles
- **--- Begin Unit 2, "Exoplanets and Evolution" by DA**
- 4.2 Unit 2.1: Exoplanet Discoveries + The Habitable Zone (DA)
- 4.3 Unit 2.2: Atmospheres and Spectroscopy (DA)

2/8: Week 5 [3 lectures]:
- 5.1 Unit 2.3: Renyu Hu "Biosignatures" Guest Lecture?
- 5.2 Unit 2.4: Evolution, Atmospheric Escape (DA)
- 5.3 Unit 2.5: Isotopic Fractionation + Mars as an example (DA)

2/15: Week 6 [2 lectures, Monday holiday]:
- 6.1 Holiday / No Lecture
- 6.2 Unit 2.6: Exoplanet Worlds (DA)
- 6.3 Unit 2 Review: student presentations

2/22: Week 7 [3 lectures]: **Begin Unit 3 "Thermo, info and bio" by SB**
- [one lecture may be a guest lecture by Mike Wong]
- 7.1 Unit 3.1: Thermodynamics and Complex Systems Introduction (SB)
- 7.2 Unit 3.2: Artificial Life: Models and Theories (SB)
- 7.3 Unit 3.3: Major Transitions and the Evolution of Complexity (SB)

3/1: Week 8 [3 lectures]:
- 8.1 Unit 3.4: Lyfe in the Universe, a General Definition of Life (SB/MW)
- 8.2 Unit 3.5: Information Processing in living and non-living Systems (SB/MW)
- 8.3 Unit 3.6: Biological learning and the Trajectory of lyfe (SB)

3/8: Week 9 [2 lectures, Friday students present]:
- 9.1 Grand Summary Lecture (YY)
- 9.2 Grand Finale Lecture (YY)
- 9.3 Student Presentations: Term Projects

3/15: Week 10 (exam week)

3/22: Grades are due on this day, 9 AM.

Lecturers: Professor Yuk Yung (YY), Danica Adams (DA), Stuart Bartlett (SB)