Syllabus links

The Study Day is designed for the Stage 6 Biology Module 3 (**Biological Diversity**)

The table shows which content descriptors are addressed at each session.

Key:

RBG – **Royal Botanic Garden, Sydney**

Zoo – **Taronga Zoo**

AM – **Australian Museum**

	Students:
1. Effects of the environment on organisms **Inquiry Question:** How do environmental pressures promote a change in species diversity and abundance?	• Predict the effects of selection pressures on organisms in ecosystems (ACSBL026, ACSBL090), including: - Biotic factors - Abiotic factors **Prior knowledge** • Investigate changes in a population of organisms due to selection pressure over time, for example (ACSBL002, ACSBL094): - Cane toads in Australia - Prickly pear distribution in Australia **RBG, Zoo**
2. Adaptations **Inquiry Question:** How do adaptations increase the organism's ability to survive?	• Conduct practical investigations, individually or in teams, or use secondary sources to examine the adaptations of organisms that increase their ability to survive in their environment, including: - structural adaptations - physiological adaptations - behavioural adaptations **RBG, Zoo, AM** • Investigate, through secondary sources, the observations and collection of data that were obtained by Charles Darwin to support the Theory of Evolution by Natural Selection, for example: - Finches of the Galapagos islands - Australian flora and fauna **RBG, Zoo, AM**

3. Theory of Evolution by Natural Selection **Inquiry Question:** What is the relationship between evolution and biodiversity?	• Explain biological diversity in terms of the Theory of Evolution by Natural Selection by examining the changes in and diversification of life since it first appeared on the Earth (ACSBL088) **AM** • Analyse how an accumulation of microevolutionary changes can drive evolutionary changes and speciation over time, for example: (ACSBL034, ACSBL093) - Evolution of the horse - Evolution of the platypus **Zoo, AM** • Explain using examples, how Darwin and Wallace's Theory of Evolution by Natural Selection accounts for: - convergent evolution - divergent evolution **RBG, Zoo, AM**
4. Evolution – the Evidence **Inquiry Question:** What is the evidence that supports the Theory of Evolution by Natural Selection?	• Investigate, using secondary sources, evidence in support of Darwin and Wallace's Theory of Evolution by Natural Selection, including but not limited to: - biochemical evidence, comparative anatomy, comparative embryology and biogeography (ACSBL089) **AM**