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Disclaimer

Any resources such as texts, websites and so on that may be referred to in this document are provided as examples of resources that teachers can use to support their learning programs. Their inclusion does not imply that they are mandatory or that they are the only resources relevant to the course.
## Sample course outline
### Integrated Science – ATAR Year 11
#### Unit 1 and Unit 2

**Unit 1 – Driver safety and hearing**

<table>
<thead>
<tr>
<th>Week</th>
<th>Key teaching points</th>
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</thead>
</table>
| 1    | • Nervous system – brain, spinal cord, nerves, eyes and ears involved in reactions  
      • Pathway of nerve impulses between neurons  
      • Driver reaction time |
| 2–3  | • Blood alcohol concentration  
      • Factors affecting stopping distance  
      • Factors affecting braking distance  
      • Calculating braking distance  
      **Task 1:** Test – Nervous system |
| 4–5  | • Newton’s Laws of Motion  
      • Effect of collisions on occupants |
| 6–7  | • Vehicle safety devices  
      • Newton’s Laws of Motion and conservation of momentum concepts applied in safety devices  
      • Analysis of motor vehicle accident statistics  
      • Educational campaigns for inexperienced driver safety  
      **Task 2:** Test – Newton’s Laws of Motion  
      **Task 3:** Investigation – Vehicle safety design |
| 8–10 | • Sound production and transfer  
      • Sound waves  
      • Wave model  
      • Calculations using $v = f\lambda$  
      • Acoustic properties of materials  
      **Task 4:** Test – Sound  
      **Task 5:** Investigation – Acoustic properties of materials |
| 11–12| • Hearing  
      • Detecting frequency (pitch) and amplitude(loudness) and effect of age  
      • Hearing loss – conductive and nerve  
      • Effect of loud noise and long exposure to noise  
      **Task 6:** Investigation – Effect of age on hearing |
| 13–14| • Hearing aids and cochlea implants  
      **Task 7:** Extended response – Hearing aids and cochlea implants research assignment  
      **Task 8:** Test – Hearing and impairment |
| 15   | Revision |
| 16   | **Task 9:** Semester 1 examination |
## Unit 2 – Biodiversity and conservation

<table>
<thead>
<tr>
<th>Week</th>
<th>Key teaching points</th>
</tr>
</thead>
</table>
| 1–2  | - Ecosystem services  
        - Biodiversity  
        - Human population growth |
| 3–5  | - Key threats to biodiversity  
        |   - land clearing  
        |   - fragmentation of native ecosystems  
        |   - mining |
| 6–7  | - altered fire regimes  
        - introduced species and pathogens  
        - stock animals  
        **Task 10**: Extended response – Feral animals in Western Australia research assignment |
| 8–9  | - pollution  
        - water  
        **Task 11**: Test – Key threats to biodiversity |
| 10–13| - Ecosystem interactions  
        - Ecological monitoring  
        - Monitoring techniques  
        - Soil and water quality monitoring  
        **Task 12**: Practical – Ecosystem monitoring techniques |
| 13–14| - Interpreting monitoring data  
        - Environmental impact statements  
        **Task 13**: Investigation – Monitoring a local ecosystem  
        **Task 14**: Test – Environmental monitoring |
| 15   | Revision |
| 16   | **Task 15**: Semester 2 examination |