| Programme<br>Title | Objective  | Target<br>(No./level/selection)   | Duration /<br>Start Date                                      | Deliverable   | Evaluation   | Expenditure   |
|--------------------|--|---|---|---|--|---|
| STEM               | <ul> <li>To introduce research<br/>and development<br/>experience through<br/>synthetic biology.</li> <li>To introduce basic<br/>chemistry, bio<br/>chemistry and<br/>molecular biology</li> <li>To introduce more<br/>real world lab<br/>experience by<br/>teaching lab skills such<br/>as PCR,<br/>transformation, gel<br/>electrophoresis</li> <li>To conduct Synthetic<br/>Biology case<br/>investigation</li> </ul> | <ul> <li>Three s4<br/>students will be<br/>representing<br/>school to join<br/>IGEM<br/>competition</li> <li>Nominated by<br/>Science teachers</li> <li>10 students (s4<br/>or s5)</li> </ul> | 20 lessons in half<br>year from Oct (two<br>lessons per week) | One<br>assignment<br>(either<br>reading or<br>writing) for<br>each lesson | Students could understand<br>and analyse the assigned<br>article with the skills learnt<br>and provided relevant<br>explanation.<br>The attendance was high<br>and the performance was<br>satisfactory.<br>Most students displayed<br>willingness to engage in<br>self-directed learning for in-<br>class discussion.<br>Students realized moral and<br>ethical issues behind<br>synthetic biology research. | Nanodrop machine:<br>\$51,600<br>-80°C Refrigerator:<br>\$9,495<br>Pressure canner:<br>\$2,537<br>Horizontal gel<br>electrophoresis<br>tank:<br>\$2,600<br>Centrifuge:<br>\$8,000<br>Micro volume<br>pipette:<br>\$11,830<br>PCR machine:<br>\$42,000 |