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Description automatically generated **Cessnock High School - Stage 4 iSTEM Objectives and Outcomes**

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| **Objectives**  Students will develop: | **Stage 4 iSTEM Outcomes**  A student: |
| 1. future focused learning skills. (e.g. problem-solving, inquiry-based learning, evaluation, critical thinking, communication and creativity) | * 1. uses the iSTEM engineering design process to create and critically evaluate STEM based solutions to real world problems   2. uses a variety of communication tools and creative thinking strategies in the completion and evaluation of STEM based activities   3. develops an inquiry-based mindset in the investigation of local, regional, national and global problems |
| 1. knowledge, understanding and skills on the safe use of STEM based technologies | * 1. safely uses a range of manufacturing technologies in the development of STEM based practical projects   2. demonstrates an understanding of block-based and text-based computer programming skills and applies the ethical use of digital technologies to the completion of STEM projects   3. demonstrates spatial drawing skills in the completion of 2D and 3D designs using a variety of drawing tools and software   4. applies mathematical, technological skills and scientific principles in the completion and evaluation of practical STEM based problem solving activities |
| 1. effective collaborative, and teamwork skills in developing solutions to real world problems | * 1. undertakes a range of team roles and responsibilities whilst productively contributing to the completion of collaborative tasks   2. works collaboratively to design, produce and evaluate innovative solutions to a range of real-world STEM based problems   3. simulates and investigates skills relevant to STEM based industries |
| 1. knowledge and understanding of the impact of past, current and emerging STEM solutions and careers | * 1. describes past, current and emerging solutions across STEM disciplines and contexts   2. investigates current and emerging STEM opportunities, careers and educational pathways   3. explains the ethical implications of STEM in the real world |