STANDARDS-ALIGNED COURSES

STEM PROJECT-BASED LEARNING THROUGH EMERGING TECHNOLOGIES

NextWave STEM curricula is aligned to standards that include the NGSS Grade Band Engineering Technology Standards, Common Core Math and ELA as they relate to the NGSS ETS standards, and ISTE, CSTA and 21st Century Skills standards related to emerging technologies and STEM.

	K-2 Early Learners	3-5 Beginner	6-8 Intermediate	9-12 Advanced
Robotics & Artificial Intelligence	Introduction to Robotics: What is a Robot?	Discovery of Robotics: Coding mBot	Exploration of Robotics: Coding mBot for a Purpose	Creation & Evaluation of Advanced Machine Learning and A.I.
			Exploration of the Internet of Things: Designing an IoT Device	Creation & Evaluation of CyberSecurity: Global Impact
Drones & Coding	Introduction to Drones: Take Flight!	Discovery of Drones: Unmanned Aviation	Exploration of Drone Coding With Tello	Creation & Evaluation of Drones: Coding with Tello
3D Technology		Discovery of 3D Design: Using TinkerCAD	Exploration of 3D Development Using TinkerCAD	Creation & Evaluation of 3D Technology for the Real World
Innovation		Discovery of Solar Power & Renewable Energy: Designing Systems	Exploration of Invention & Entrepreneurship: From Idea to Market	

LESSONS BUILD UPON ONE ANOTHER
THE PROGRESSION OF KNOWLEDGE

K-2 Introduction	3-5 Discovery	6-8 Exploration	9-12 Creation & Evaluation
Early learners are introduced to basic knowledge and understanding of what robots and drones are and what they do.	Young learners build knowledge and understanding of real-world application and purposes of emerging technologies.	Students analyze emerging technologies uses and evaluate their affordances and effectiveness in the real world.	Students evaluate and develop design solutions using emerging technologies to solve real-world problems.

Equipment & Software

· Code & Go® Robot Mouse, Colby · Scoot Drone	· mBot®, mBlocky® · Tello Drone®, Droneblocks app® · MiniDelta 3D Printer®, Tinkercad	· mBot®, mBlocky® · Tello Drone®, Droneblocks app® · MiniDelta 3D Printer®, Tinkercad · Makeblock mBlock 5®	· Python · Tello Drone®, Droneblocks app® · MiniDelta 3D Printer®, Tinkercad