

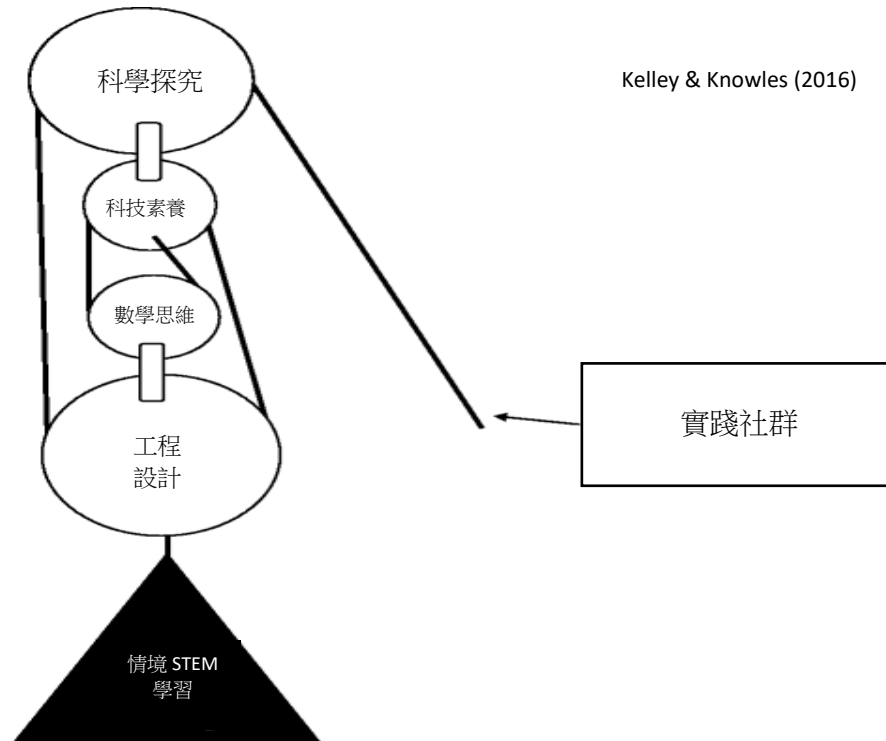
STEM 教育

為配合廿一世紀社會發展的大趨勢，讓學生能裝備自己，迎接未來的挑戰，學校在學術發展組統籌下，科學科、資訊科技科、設計與科技科及數學科合力為學生籌劃不同類型的 STEM 學習經歷。

STEM 教育發展目標

- 綜合運用學科知識和技能
- 連繫課堂知識和生活
- 以學生為本，發展解難能力及創意
- 提升學生科學及科技素養

引用 Kelley & Knowles (2016) 有關 STEM 教育的統整研究，STEM 的教育，應在跨學科，甚至超學科的情境下發生。透過活動及課程，學生均有接受 STEM 教育的機會。



STEM 活動

透過舉辦不同的活動，讓學生有更多機會接觸不同類型的 STEM 項目，訓練學生的思維、能力及態度。



STEM 課程

為讓學生有更紮實的根基，及令學生在一個情境中有更深入的探究，學校在中一及中二均設有 STEM 科。

中一	中二
<ul style="list-style-type: none">• 電腦編程• 工程設計• 智能家居設計	<ul style="list-style-type: none">• 火箭車設計• 水資源研究計劃

參照 Morris and Adamson(2010) 的科學課程設計分析，初中 STEM 科在不同導向上，有著均衡的發展。

學術理性主義

- 科學知識
- 數學知識

社會經濟效能

- 工程設計
- 科技運用

社會重建

- 資源運用反思
- 社區參與反思

學生為本

- 按個人興趣及能力進行研究

理念轉移

- 生命教育
- 改變未來

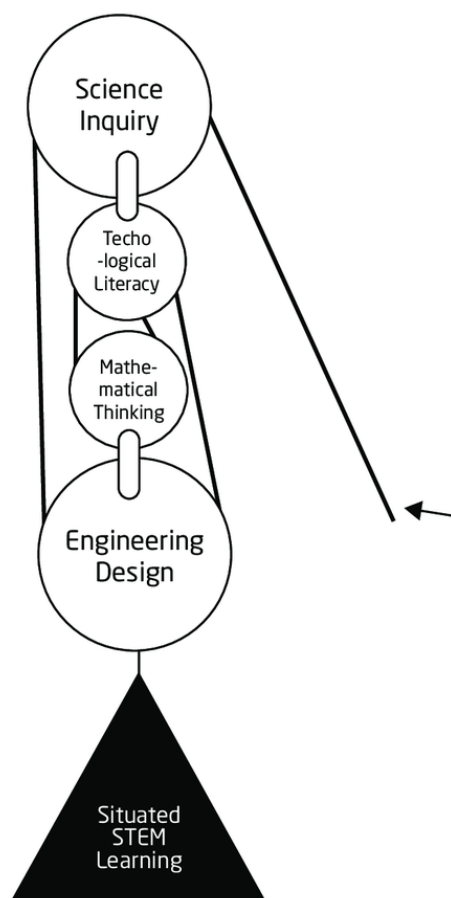
STEM Education

In order to cope with the major development trends of the 21st Century and to equip students with different skills to face future challenges, the Academic Development Committee has been working with the subject coordinators of Integrated Science, Information Technology, Design & Technology, and Mathematics to provide various STEM learning experiences for students.

STEM Education Development Goals

- To integrate subject knowledge and skills
- To bring knowledge in the classroom into the real world
- With a student-centered approach, to help students develop their creativity and problem-solving skills
- To enhance students' scientific and technological literacy

According to the research on integrated STEM education conducted by Kelley and Knowles (2016), STEM education should be carried out with interdisciplinary or even transdisciplinary integration. Through activities and courses, students have the opportunity to receive STEM education.



Kelley & Knowles (2016)

STEM Activities

Through participating in activities and workshops, students are exposed to different kinds of STEM projects that train their thinking, ability, and attitude.



STEM Courses

To provide students with a solid foundation and an authentic setting that facilitates in-depth exploration, our school offers STEM subjects to F.1 and F.2 students.

F.1	F.2
<ul style="list-style-type: none">• Computer programming• Engineering design• Smart home design	<ul style="list-style-type: none">• Rocket car design• Water resources research project

According to the analysis of the science curriculum design conducted by Morris and Adamson (2010), there is a balanced development on the orientation of the STEM subject at junior secondary level.

Academic Rationalism	<ul style="list-style-type: none">•Scientific knowledge•Mathematical knowledge
Social and Economic Performance	<ul style="list-style-type: none">•Engineering design•Technological implementation
Social Reconstructionism	<ul style="list-style-type: none">•Reflection on resources utilization•Reflection on community engagement
Student-centered Approach	<ul style="list-style-type: none">•Conduct research based on personal interests and ability.
Transfer of Concept	<ul style="list-style-type: none">•Life education•Changing the future