

一、學生核心能力指標

I. Student Core Competency Index

1.知識／認知層面

1. Knowledge/Cognitive Aspect

1-1 了解科學的豐富與複雜本質

1-1 Understand the nature of richness and complexity of science

1-2 熟悉科學與社會的互動與議題

1-2 Be familiar with interactions between science and society and relevant issues

1-3 熟習認知與科學學習的理論與實務

1-3 Be familiar with and practiced in theories and practices of cognitive and science learning

1-4 具備研究認知與科學學習的能力

1-4 Have the ability to research cognitive and science learning

1-5 能應用科學學習理論於實務工作上

1-5 Be able to apply science learning theories to practice

1-6 熟悉科學課程發展沿革並能批判反思

1-6 Be familiar with the history of science curriculum development and be able to reflect critically

1-7 具設計、發展及評鑑科學課程之能力

1-7 Have the ability to design, develop, and evaluate science curricula

1-8 熟習科技導入科學教育的理論與實務

1-8 Be familiar with and practiced in incorporating technology to the theory and practice of science education

1-9 具備營造數位學習環境的知能

1-9 Have the knowledge and ability to manage and create a digital learning environment

1-10 具規劃研究設計及執行資料分析的能力

1-10 Have the ability to design a study and analyze data

1-11 具批判研究設計及分析方法之能力

1-11 Have the ability to give critical feedback on research design and analysis methods

2.職能導向層面

2. Vocational Aspect

2-1 具備科學教師所需科學教育素養與科學教學知能

2-1 Be equipped with science education literacy and science teaching knowledge and ability needed for being a science teacher

2-2 熟習現行科學教育政策與教育改革理念

2-2 Be familiar with and practiced in current science education policies and education reform ideas

2-3 知道高等教育的教學與實務現況

2-3 Know the current situation of the instruction and practice in higher education

2-4 能獨力完成科學教育的相關研究

2-4 Be able to carry out and complete science education research independently

2-5 瞭解非制式科學教育為科學教育的一環，熟悉各種非制式科學教育機構的現況，結合學校科學教學以促進科學的教與學

2-5 Understand that informal science education is part of science education; be familiar with the current situation of all types of informal science education organizations; and connect with school science instruction to promote science teaching and learning

2-6 能設計、實施與評鑑非制式科學教育的活動

2-6 Be able to design, implement, and evaluate informal science education activities

2-7 知曉各種科學傳播方式的特性，並瞭解其與科學概念、科學本質、科學認知的關係

2-7 Know the characteristics of all types of science communication and understand their relationships with science concepts, the nature of science, or science understanding

2-8 能規劃與設計科普教學活動，以促進大眾科學理解、通識、以及科學識讀能力

2-8 Be able to plan and design science fair activities for the public to promote general science understanding and knowledge as well as science literacy.

3.個人特質層面

3. Personality Aspect

3-1 善於交流合作及融入團體活動

3-1 Be good at communicating, collaborating, and getting involved in team activities

3-2 具友善態度與同理心

3-2 Have a friendly attitude and empathy

3-3 積極進行教學研究與解決教學問題

3-3 Be active when conducting education research and solving teaching and learning problems

3-4 具穩定情緒與抗壓性

3-4 Have steady-state emotions and be able to cope with stress

3-5 具開放、能接受不同想法的胸襟

3-5 Be open-minded to different thoughts or ideas

4.價值與倫理層面

4. Core Values and Ethical Aspect

4-1 秉持能誠實不造假的精神

4-1 Be honest and does not falsify facts

4-2 具有堅定的科學信念

4-2 Have a strong belief in science

4-3 具有抱持懷疑的求知態度

4-3 Have a questioning and learning attitude

4-4 能據理力爭

4-4 Be able to fight for one's point of view with reason

4-5 尊重智慧財產權

4-5 Respect the intellectual property rights of others