

# How STEM Disciplines are Coping with the Age of Disruption

# Innovations for STEM Disciplines

- Goals: whole person development
- Target audience
  - STEM and non-STEM students
  - Lifelong learners
- Innovations: tools and techniques
- Assessments and quality assurance
  - Outcome-based, criteria referencing

# Attributes in Whole-Person Development

- Appreciation of the values of a broad range of intellectual disciplines as well as general knowledge
- Have gained a depth of knowledge within a specialty, not only as an end in itself but also as a vehicle for experience in serious study and enquiry.
- Have a high level of language proficiency, and a collection of skills including numeracy, analytic skills and IT capability
- Ability to continue with life-long learning and professional development
- Cultivated a habit of reading widely, and learnt to be critical and independent

## Attributes (cont'd)

- Effective in communication and working in a team
- Deep understanding of culture and with it a sense of national identity and pride
- An appreciation of other cultures, and with that appreciation also a high degree of inter-cultural sensitivity, tolerance and a global perspective
- Have an attitude of compassion, honesty and integrity in relation to self, family and society, and the ability to contribute as citizens and leaders
- Have a sense of purpose, responsibility and commitment in life, a desire to serve, as well as taste in their pursuits.