

**Course Description**  
**MEDD8644 Assessment in Science Education**

<b>Course description</b>		
This course considers the importance of assessment for learning and quality assessment of learning in science. A wide range of strategies, such as questioning, practical work, scientific inquiry, probing and building student conceptual understanding, skills and attitudes in doing science, will be examined. Assessment literacy related to setting of assessment items and assessment rubrics will be discussed.		
<b>Course objectives</b>		
The module aims to provide students with foundation to their understanding of assessment in science education through: <ul style="list-style-type: none"> <li>reviewing the state of knowledge about assessment in science education</li> <li>exploring key areas of research on assessment</li> </ul>		
<b>Course learning outcomes</b>		<b>Aligned programme learning outcomes (PLOs)</b>
1. To review the state of knowledge about assessment in science education		PLO 1
2. To relate the research to recent educational reforms, especially assessing for learning, and emphasis on investigative approaches		PLO 2
3. To examine how to create pedagogical approaches consistent with (1) and (2)		PLO 3
<b>Course assessment methods</b>		
<b>Assessment method</b>	<b>Weighting (%)</b>	<b>Aligned course learning outcome(s)</b>
Group pPresentation	30	CLOs 1, 2, 3
Individual Literature Review/Reflective Essay	50	CLOs 1, 2, 3
Views expressed on Moodle	20	CLOs 1, 2, 3
<b>Course content and topics</b>		
Introduction to the module What is assessment Assessing scientific investigations Constructing assessment tasks (1) Constructing assessment tasks (2) Process of formative assessment Eliciting student thinking On-the-fly assessment Formative use of summative assessment		
<b>Required / recommended readings and online materials</b>		
Bell, B., & Cowie, B. (2001). <i>Formative assessment and science education</i> . Dordrecht: Kluwer Academic Publishers  Black, P., Harrison, C., Lee, C., Marshall, B., & William, D. (2003). <i>Assessment for Learning: Putting it into practice</i> . Maidenhead: Open University Press.  Black, P., & Wiliam, D. (2010). Inside the black box: Raising standards through classroom assessment. <i>Phi Delta Kappan</i> , 80(2), 139-148.  Bell, B. (2007). Classroom Assessment of Science Learning. In Lederman, N. G. & Abell, S. (Eds.), <i>Handbook of research on science education</i> (pp. 965-1006). Mahwah, N.J.: Lawrence Erlbaum Associates.		

<p>William, D. (2011). What is assessment for learning? <i>Studies in Educational Evaluation</i>, 37(1), 3-14.</p> <p>Windschitl, M., Thompson, J., &amp; Braaten, M. (2020). <i>Ambitious science teaching</i>. Harvard Education Press.</p>
<b>Other additional course information</b>
<p>Nil</p>