



UNIVERSITI TEKNOLOGI MARA

SCE590: Science Module Writing

Course Name (English)	Science Module Writing APPROVED
Course Code	SCE590
MQF Credit	3
Course Description	This course will explore the concept and process of developing a science module for learning. The topics covered are the five major steps of a module development which include Planning, Designing, Developing, Delivery and Evaluation. Throughout this course, students will collaboratively involve in rigorous discussions to formulate a module framework and develop a practical module for their targeted audience. Students will be assessed based on their participations in group activities, presentations and the final product.
Transferable Skills	1. Creative thinking 2. Teamwork and collaboration 3. Problem solving 4. Leadership
Teaching Methodologies	Lectures, Discussion, Presentation, Journal/Article Critique, Collaborative Learning, Project-based Learning
CLO	CLO1 Discuss the concept and process of developing a module. CLO2 Formulate a framework for the development of a science module. CLO3 Develop a science practical module for selected audience.
Pre-Requisite Courses	No course recommendations
Topics	
1. Introduction to module development 1.1) N/A	
2. Needs assessment 2.1) Assessing needs	
3. Design 3.1) Course design process 3.2) Learning Outcomes	
4. Development 4.1) Developing materials 4.2) Developing presentations	
5. Delivery 5.1) Delivery methods 5.2) Effective communication skills	
6. Evaluation 6.1) Forms of evaluation 6.2) Process of evaluation	
7. Critical Reflection 7.1) N/A	

Assessment Breakdown	%
Continuous Assessment	100.00%

Details of Continuous Assessment	Assessment Type	Assessment Description	% of Total Mark	CLO
	Final Project	Students need to develop a science module that will test students' abilities to solve problems in scientific and systematic manner.	40%	CLO3
	Journal/Article Critique	Students need to discuss and critically evaluate the concepts and processes related to a module development through article reviews.	20%	CLO1
	Presentation	Students need to formulate the framework of their science module through presentations.	40%	CLO2

Reading List	Recommended Text	
	Reference Book Resources	<ul style="list-style-type: none"> • Christopher Butcher, Clara Davies, Melissa Highton 2020, <i>Designing Learning</i>, 2 Ed., Routledge New York [ISBN: 9781138614895] • Serhat Kurt 2019, <i>An Introduction to the Addie Model: Instructional Design: The Addie Approach</i>, Independently Published [ISBN: 9781723982422] • Nardo, Ma. Theresa Bringas 2015, <i>Development and Evaluation of Modules in Technical Writing</i>, LAP Lambert Academic Publishing [ISBN: 978365932403] • Norlidah Alias, Dorothy DeWitt, Saedah Siraj 2013, <i>Development of Science Pedagogical Module</i>, Pearson Malaysia Malaysia [ISBN: 9673492824] • Norbert M. Seel, Thomas Lehmann, Patrick Blumschein, Oleg A. Podolskiy 2017, <i>Instructional Design for Learning</i>, Brill - Sense [ISBN: 9789463009393]

Article/Paper List	Reference Article/Paper Resources	
		<ul style="list-style-type: none"> • Vina Serevina, Sunaryo, Raihanati, I Made Astra, Inayati Juwita Sari 2018, Development of E-Module Based on Problem Based Learning (PBL) on Heat and Temperature to Improve Student's Science Process Skill, <i>The Turkish Online Journal of Educational Technology</i>, 17(3), 10 • Zuhrita Ariefiani, Djoko Kustono, and Syaad Pathmantara 2016, Module development with project-based learning approach and assure development model, <i>Proceedings of the International Mechanical Engineering and Engineering Education Conferences (IMEEEEC 2016)</i>, 5 https://doi.org/10.1063/1.4965770 • Rufii Rufii 2015, Developing Module on Constructivist Learning Strategies to Promote Students' Independence and Performance, <i>International Journal of Education</i>, 7, 10 [ISSN: 1948-5476] http://dx.doi.org/10.5296/ije.v7i1.6675 • Norlidah, S. & Saedah, S 2012, Design and Development of Physics Module Based on Learning Style and Appropriate Technology by Employing Isman Instructional Design Model, <i>Turkish Online Journal of Educational Technology- TOJET</i>, 11(4), 84

Other References	This Course does not have any other resources