



Integrating education with consumer behaviour relevant to energy efficiency and climate change at the universities of Russia, Sri Lanka and Bangladesh (BECK)

MODULE SPECIFICATION

Originating Institution, Department	Module Co-ordinator(s)
Department of Agricultural Engineering, Faculty of Agriculture, University of Ruhuna, Sri Lanka.	Prof. Champa M. Navaratne Emeritus Prof. KDN Weerasinghe Mr. PP Ruwanpathirana Mr. HAC Priyankara

TITLE OF THE MODULE

Title of the module	Module code ¹
Green behaviour and personality development	

PROGRAMME(S) IN WHICH TO BE OFFERED:

1. Green Behaviour and sustainable consumption stimulation (2 credits)
2. Spirituality and relaxation techniques for personality development (1 credits)

LEVEL OF STUDIES²

First cycle (BSc/BA) <input checked="" type="checkbox"/>	Second cycle (MSc/MA) <input type="checkbox"/>	Third cycle (PhD) <input type="checkbox"/>
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CREDITS AND LEARNING HOURS

Credit Value ³	ECTS Value ⁴	Indicative academic learning hours ⁵	Length (in Semesters) ⁶	Year in which to be offered
3	3	80	1	1 year

ANNOTATION OF THE MODULE⁷

¹ To be indicated by the Institution

² According to the Framework of Qualifications for the European Higher Education Area, Annex 8: http://www.aic.lv/ace/ace_disk/Bologna/Bergen_conf/Reports/EQFreport.pdf

³ Permissible credit values as set out in Institution's Academic Regulations

⁴ European Credit Transfer System, 1 ECTS = 25-30 academic learning hours. Please refer to ECTS Users' Guide: https://ec.europa.eu/education/ects/users-guide/docs/ects-users-guide_en.pdf

⁵ 1 academic learning hour is equal to 45 minutes

⁶ Indicate 0.5, 1, 1.5 or 2

⁷ Please provide brief summary of the module, up to 200 words





The world has to explore different opportunities to mitigate the effects and build resilience on climate change since each regions of the world faces specific vulnerabilities to the climate change. When educating and encouraging the young people on increasing climate literacy, is essential for global response to climate change. It helps to learners as a behavioural and attitude changing force towards sustainable lifestyle. In parallel to the rapid growth in the world's population and globalization, the range of products produced have increased significantly. In the modern era, increasing pollution and threatening environmental extremes have already aroused increased public concern.

The course introduces and give overview of conceptual theories and applications for sustainable consumption stimulation by changing consumer behaviour into green for address the climate change.

The concepts such as circular economy, LCA, CFP, WFP, ecological footprints are used to develop understanding of the sustainable consumption and selection behaviours changes of the consumers by evaluating them into the application towards greener behaviour.

The module focuses different application of above concepts with deferent industries and consumers guide towards the development of green behaviour pathway to apply in their consumption patters as influencing selection criteria to develop and practice sustainable consumption and motivate toward it.

Individuals' internal energy situation is much influenced by the external environmental factors including the cosmetic influences. In the eastern philosophies much attention has been given to balance the internal and external energy situations (Physical and mental energy balances). The Yoga is widely adapted technology in terms of energy balancing concentrating on the energy centres in the body. This helps the individuals to adapt their energy levels to coop up with the external world which is heavily disturbed due to the climate change associated phenomena. Techniques of yoga also helps the individual to adapt to the excited situation to engage with green habits to change the personal behaviour to avail a sustainable social life style.

AIM OF THE MODULE⁸

The module will introduce theories for the students to engage with behavioural changes towards sustainable life pattern and consumption by intergrading the knowledge-based application, spiritual and personality development to meet the challenges of climate change

MOOC LEARNING AND TEACHING STRATEGIES

A Massive Open Online Course (MOOC) is an openly accessible, web-based course designed for large-scale enrolment and instruction. MOOCs encourage local learning communities to form, teaching a MOOC pushes you to be innovative and creative when it comes to teaching. It allows you to explore the online environment while pushing the envelope in terms of teaching pedagogy and strategies, benefit of both learners and the society at large while reflecting values such as equity, quality and diversity. This MOOCs will introduce you to student-focused approaches and general principles of teaching and learning at a university level.

The common features of the course are:

⁸ Aim of the module must correspond to the BECK Capacity Building Framework





- Openness to learners: open entry (no formal pre-requisites), freedom to study at the time, place and pace of your choice, flexible pathways, fit for a wide variety of lifelong learners;
- Digital openness: courses available online;
- Learner-centred approach: courses aid students to construct their own learning from a rich environment, and to share and communicate it with others;
- Independent learning: a MOOC provides high quality materials to enable the progress of an independent learner through self-study;
- Media-supported interaction: course materials make best use of online affordances (interactivity, communication, collaboration) as well as rich media (video and audio) to engage students with their learning.
- Recognition options: successful course completion will be recognised as indicating worthwhile educational achievement.
- Quality focus: focus on quality in the production and presentation of a MOOC.
- Spectrum of diversity: the course is inclusive and accessible to very diverse citizens.

The delivery of the new certificated and recognized adaptive BECK MOOCs is enabled by the use of the innovative Simulated Big Data Interuniversity Networked Affective Educational Centre. Affective computing technologies and neuro decision matrices, big data and text analytics, and an adapted Yerkes–Dodson law are the foundation of the BECK system. Affective computing is the study and development of systems and devices that can recognize, interpret, process and simulate human affects. The BECK system will interpret the emotional state of a student and adapt the learning process to that particular student by providing an appropriate response to relevant emotions and requirements.

Six major components have been identified for the development of the Simulated Big Data Interuniversity Networked Affective Educational Centre (the BECK Centre):

- 1) Adaptive MOOCs;
- 2) Computer learning systems;
- 3) Big Data Mining;
- 4) Affective Tutoring System;
- 5) Access to e-sources;
- 6) Moodle Virtual Learning Environment.

The computer learning system is understood as an object (with its components) for managing and investigating data, information, and expressed and unexpressed knowledge. It is a modelling system that accumulates data and information from various resources and then processes that data and information by means of various mathematical, logical and informational models.

The centre will offer open-source videos, simulators (calculators and software), case studies from the best universities around the world to enhance the module.

The following main features have been identified for the development of the Moodle Virtual Learning Environment: adaptable design, modern and easy to use interface, personalized dashboard, collaborative tools and activities (Assignments, Chat, Choice, Database, Feedback, Forum, Glossary, Lesson, Quiz, Survey, Wiki, Workshop), all-in-one calendar, convenient file management, simple and intuitive text editor, notifications, progress track, secure authentication and mass enrolment, multilingual capability, high interoperability, user role and permission management, etc.

MOOC is accessible for various target groups. Its activities aid participants to construct their own learning and communicate it to others. The activities, tasks and routes are designed in such a way that they can be performed at specific levels of difficulty or complexity, to accommodate the broad spectrum of participants' knowledge and skills that is expected. The course contains





sufficient interactivity (learner to content, learner to learner and learner to teacher) to encourage active engagement. The feedback of the academic tutor is limited and scalable. The course provides learners with regular feedback through self-assessment activities, tests or peer feedback. The MOOC has possibilities to follow the score and progression.

INTENDED LEARNING OUTCOMES AND ASSESSMENT

Learning Outcomes of the module⁹	Methods of studies	Assessment methods of student achievements¹⁰	Assessment criteria of student achievements by assessment levels
1. Understand, able to explain and apply the concepts, theories of consumers green behaviour and sustainable consumption	Blended learning, integrated affective tutoring and affective computing methods. The Integrated Method includes computer learning systems, an affective tutoring system, access to e-sources (open-source videos, simulators such as calculators and software, and case studies from the best universities around the world), self-study in the Moodle Virtual Environment (learning materials including audio visual materials, text materials) online discussions	<input checked="" type="checkbox"/> Problematic questions <input type="checkbox"/> Intelligent tests <input checked="" type="checkbox"/> Regular tests <input type="checkbox"/> Problematic tasks <input checked="" type="checkbox"/> Projects <input checked="" type="checkbox"/> Peer evaluation <input type="checkbox"/> Automated feedback <input type="checkbox"/> Final evaluation <input type="checkbox"/> Other: assessment of a <input checked="" type="checkbox"/> written essay/report <input checked="" type="checkbox"/> Assignment	<i>Threshold achievement level</i> Understanding the concepts, theories and applications of sustainable consumption and consumer green behaviour
			<i>Typical achievement level</i> Able to explain and apply the concepts, theories and perspectives of consumer green behaviour and sustainable consumption
			<i>Excellent achievement level</i> Able to explain and apply the concepts, theories and disseminate the knowledge with social communities
02. To identify and examine the	access to e-sources (open-source videos,	<input checked="" type="checkbox"/> Problematic questions <input type="checkbox"/> Intelligent tests	<i>Threshold achievement level</i>

⁹ Learning outcomes are specified in three categories – as **knowledge, skills and competence**. This signals that qualifications – in different combinations – capture a broad scope of learning outcomes, including theoretical knowledge, practical and technical skills, and social competences where the ability to work with others will be crucial. Please refer to Cedefop (2017). Defining, writing and applying learning outcomes: a European handbook. Luxembourg: Publications Office of the European Union. https://www.cedefop.europa.eu/files/4156_en.pdf. Learning outcomes of the module must correspond to the BECK Capacity Building Framework.

¹⁰ Please select from the list. Additional assessment methods may be added.





<p>applications which are used by deferent industries to stimulate the sustainable consumption and green behaviour</p>	<p>simulators such as calculators and software, and case studies from the best universities around the world, learning materials including audio visual materials, text materials) online discussions</p>	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Regular tests <input type="checkbox"/> Problematic tasks <input checked="" type="checkbox"/> Projects <input checked="" type="checkbox"/> Peer evaluation <input type="checkbox"/> Automated feedback <input type="checkbox"/> Final evaluation <input checked="" type="checkbox"/> written essay/report <input checked="" type="checkbox"/> Assignment 	<p>Understand the concepts and theories and applications practising by different industries to stimulate the sustainable business strategies for consumers green behaviour</p> <hr/> <p><i>Typical achievement level</i> Able to explain and the concepts and theories and applications practising by different industries to stimulate the sustainable business strategies for consumers green behaviour</p> <hr/> <p><i>Excellent achievement level</i> Able to analyse applications, practices, activities and strategies of different industries towards consumers sustainable consumptions</p>
<p>3. Skill development to evoke internal energy by balancing the mental and physical energy centres of the body</p>	<p>Through learning materials including audio visual materials, text materials, online interactions in forums to build a learning community, and exercises with an integrated feedback mechanism), live events (video conferencing)</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Problematic questions <input type="checkbox"/> Problematic tasks <input type="checkbox"/> Regular tests <input type="checkbox"/> Problematic tasks <input checked="" type="checkbox"/> Projects <input checked="" type="checkbox"/> Peer evaluation <input type="checkbox"/> Final evaluation <input checked="" type="checkbox"/> Other: video production 	<p><i>Threshold achievement level</i> Understand the theory with elementary skills development</p> <hr/> <p><i>Typical achievement level</i> <i>Understand the internal philosophy and act accordingly</i></p> <hr/> <p><i>Excellent achievement level</i> <i>Demonstrates high achievement in Both theory and practices</i></p>





MODULE MARK CALCULATION¹¹:

Subject 01 : Green Behaviour and sustainable consumption stimulation

Assessment components (in chronological order of submission/examination date)				
Type of assessment ¹²	Weighting, %	Duration (if exam)	Word count (if essay or similar):	Component pass required ¹³
Assignments (include online tests)	30%			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Individual survey report	50%		6000	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Developing publishing materials	10%			Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Online examination	10%	20 min		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Total:	100%			

Subject 02: Spirituality and relaxation techniques for personality development

Assessment components (in chronological order of submission/examination date)				
Type of assessment ¹⁴	Weighting, %	Duration (if exam)	Word count (if essay or similar):	Component pass required ¹⁵
Final assessment: individual video	40%	<5minutes		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Reference work	20%		2000 words	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Written paper (Structured)	40%			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Total:	100 %			

SYLLABUS OUTLINE

No.	Topic ¹⁶	Number of hours ¹⁷
Subject 01: Green Behaviour and sustainable consumption stimulation (2 credits)		
1.	Introduction to green consumerism/ green consumer behaviour Theories related to green consumer behaviour	4
2.	Introduction to concepts of footprints (Carbon footprint, water footprint, Ecological Footprint)	5
3.	Introduction to Circular economy	12

¹¹ Please list all components, sum must be equal to 100%. Note that successful course completion should be recognised as indicating worthwhile educational achievement.

¹² Please indicate in chronological order of submission date each assessment component by type, e.g. examination, home work, coursework, project

¹³ Indicate Yes to specify the assessment component(s) to be passed in order to pass the module

¹⁴ Please indicate in chronological order of submission date each assessment component by type, e.g. examination, home work, coursework, project

¹⁵ Indicate Yes to specify the assessment component(s) to be passed in order to pass the module

¹⁶ Please add as many topics as needed

¹⁷ Includes self-learning, on-line conferences and consultations





4.	International Environmental Certification systems	5
5.	Sustainable Consumption stimulation Motivation toward the green logistic, green marketing & green consumption	10
6.	Sustainable Consumption stimulation: Applications and practices of different industries	15
7.	Eco-labeling and application	3
Subject 02: Spirituality and relaxation techniques for personality development (1 credits)		
8.	Impact of weather and climate on individual behaviors	4
9.	Basic Meditation Techniques	10
10.	Ashtanga Yoga !2	12
Total		80

LEARNING MATERIALS¹⁸

Core materials (up to 5 references):

1. Weetman, C., 2016, A circular economy handbook for business and supply chains, 1. ed. Kogan Page Ltd, New York, ISBN 978-0749476755.
2. [Rodrigue, J.](#), [Slack, B.](#) and [Comtois, C.](#) (2017), "Green Logistics", [Brewer, A.](#), [Button, K.](#) and [Hensher, D.](#) (Ed.) *Handbook of Logistics and Supply-Chain Management* (, Vol. 2), Emerald Group Publishing Limited, pp. 339-350. <https://doi.org/10.1108/9780080435930-021>
3. Department for Environment Food and Rural Affairs, 2009. Guidance on how to measure and report your greenhouse gas emissions. DECC Website 75. [https://doi.org/ISBN 978 0 580 71382 8 ICS 13.310; 91.190](https://doi.org/ISBN%20978%20580%2071382%208%20ICS%2013.310%2091.190)
4. Lotz, M., Brent, A., 2015. Carbon Footprinting Guide: A practical footprinting calculation guide focusing on measuring, monitoring, reporting and verification, 3. ed. Nedbank Limited Nedbank, Johannesburg.
5. K.D.N.Weerasinghe Leelananda Wickramarachchi, S.P.Palliaguru Yogasana Neptune Publivcations (2015) Colombo. Sri Lanka

Supplementary materials (up to 10 references):

1. Wagner, S.A., 2005. Understanding Green Consumer Behaviour, Understanding Green Consumer Behaviour. Taylor & Francis e-Library. <https://doi.org/10.4324/9780203444030>
2. Wu, S.-I., Chen, J.-Y., 2014. A Model of Green Consumption Behavior Constructed by the Theory of Planned Behavior. Int. J. Mark. Stud. 6. <https://doi.org/10.5539/ijms.v6n5p119>
2. Bsi, 2008. Guide to PAS 2050 - How to assess the carbon footprint of goods and services. Library (Lond). 58.
3. Haanpää, L., 2007. Consumers ' green commitment : indication of a postmodern lifestyle ? 31, 478–486. <https://doi.org/10.1111/j.1470-6431.2007.00598.x>
4. Joshi, Y., Rahman, Z., 2015. Factors Affecting Green Purchase Behaviour and Future Research Directions, International Strategic Management Review. Holy Spirit University of Kaslik. <https://doi.org/10.1016/j.ism.2015.04.001>

¹⁸ Courses should provide high quality materials to enable an independent learner to progress through self-study. Materials should make best use of online affordances (interactivity, communication, collaboration) as well as rich media (video and audio) to engage students with their learning.





5. Najdah, Aziz, A., Ezzati, N., Yani, A., 2017. the Determinant Factors of Green Consumption Behavior. South East Asia J. Contemp. Business, Econ. Law 12, 16–22.
6. Vermeir, I., Verbeke, W., 2006. Sustainable food consumption: Exploring the consumer 'attitude - Behavioral intention' gap. J. Agric. Environ. Ethics 19, 169–194. <https://doi.org/10.1007/s10806-005-5485-3>
7. Morris, J., 2012. Theories and models of behaviour and behaviour change 1–27.
8. Gorkom. N. V., (N.D.), Understanding Dhamma. The Dhamma Study and Support foundation. Bangkok, Thailand. ISBN 9786169024774
9. Ministry of Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homeopathy(AYUSH), (2017). International day of Yoga; Common yoga protocol. Morarji Desi National Institute of Yoga. New Delhi, India
10. Sheridan. S. & Waugh C., (1999). How To Use Relaxation for Health & Success. Jaico Publishing House, Mumbai, India. ISBN 81-7224-967-5
11. Ariyaratne. J.K.P., (2001). Two Buddhist Sutras Viewed From Science. Stamford Lake Publication, Pannipitiya, Sri Lanka. ISBN 955-8156-84-1

On-line resources¹⁹:

1. <https://www.gov.uk/government/organisations/department-for-environment-food-rural-affairs>
2. <https://www.iso.org/home.html>
3. <https://www.ipcc.ch/>
4. <https://www.mindbodygreen.com/0-4455/8-Most-Common-Questions-from-Yoga-Beginners.html>
5. <https://www.wikihow.com/Do-Yoga>

Other materials:

REQUIRED IT RESOURCES²⁰

No.	Software, manufacturer
1.	MS Word
2.	MS Excel
3.	MS Power Point
4.	Adobe reader/ pdf reader
5.	Carbon footprint calculators
6.	Video editing software

Date of completion of this version of Module Specification: 06/ 11/ 2019

Date of approval by the Faculty: 08/ 11/ 2019

¹⁹ Please provide links

²⁰ Please add as many software as needed for the course

