Wrexham Glyndŵr UNIVERSITY

MODULE SPECIFICATION PROFORMA

Module Title:	English for STEM	**Level**:	4	**Credit Value:**	20

Module code:	LAN474	**Is this a new module?**	Yes	**Code of module being replaced:**	N/A

Cost Centre(s):	GAME	JACS3 **code**:	Q190

With effect from:	July 17

School:	Applied Science, Computing & Engineering	**Module Leader:**	Tom Rozario

Scheduled learning and teaching hours	40 hrs
Guided independent study	160 hrs
Placement	0 hrs
Module duration (total hours)	200 hrs

Programme(s) in which to be offered	Core	Option
EU/EEA students enrolled on ASCE Summer School programmes	☐	✓
	☐	☐
	☐	☐

Pre-requisites
IELTS 5.5 (or equivalent)

Module Aims
This module is designed to address the English language needs of non-native speakers studying or working in the STEM field. It will focus on developing both productive and receptive language skills to enable participants to engage more effectively in processing, creating, analysing and sharing scientific information within the STEM community. There will also be a strong emphasis on expanding participants' mental lexicon of core STEM vocabulary through exercises and activities aimed at increasing retention and recall. Selected grammar topics covering but not limited to B2 level will be revised/introduced in context. Participants will be exposed to real-world but level-appropriate source materials such as STEM lectures and talks, newspaper and magazine articles, documentaries, programmes, and films. Literature on the STEM landscape in the UK and STEM research at Wrexham Glyndŵr will also be included. Successful completion of the course should prepare students for further formal English language testing and should mean their ability increases by around 0.5 on the IELTS test score; the module itself is not proof of achievement on the CEFR. In addition, the final assessment for this module is not on the UKVI's list of Secure English Language Tests so it cannot be used for immigration purposes.

Intended Learning Outcomes		
Key skills for employability		

KS1   Written, oral and media communication skills
KS2   Leadership, team working and networking skills
KS3   Opportunity, creativity and problem solving skills
KS4   Information technology skills and digital literacy
KS5   Information management skills
KS6   Research skills
KS7   Intercultural and sustainability skills
KS8   Career management skills
KS9   Learning to learn (managing personal and professional development, self-management)
KS10   Numeracy

At the end of this module, participants will be able to	Key Skills	
1	Demonstrate B2 level competence in using a broader knowledge of modality (tense and aspect), verb patterns, clause structure, grammatical and lexical cohesion, textual patterns, and text genres to effectively understand and convey meaning through improved reading and writing skills respectively.	KS1	KS2
		KS3	KS9
2	Demonstrate B2 level competence in using a broader knowledge of prosodic features, discourse markers, dialect/idiolect/sociolect, pragmatics, features of connected speech, spoken language conventions, and paralinguistic features to effectively understand and convey meaning through improved listening and speaking skills respectively.	KS1	KS2
		KS3	KS9
3	Deploy retention and recall strategies to activate a wide range of core STEM vocabulary, common collocations, and idiomatic language to effectively negotiate meaning and mediate communication in the STEM context via the productive and receptive skills mentioned in ILOs 1 and 2.	KS1	KS5
		KS9	

Transferable skills and other attributes

- the ability to deal confidently with different types of text in the STEM context
- the ability to construct different genres of writing in the STEM context
- the ability to exercise good control of grammar and vocabulary in carrying out all of the aforementioned skills
- Research skills
- Time-management skills
- Critical thinking skills in evaluating personal learning style to enhance learning output
- Different skills in vocabulary building
- Cross-cultural awareness

Derogations
N/A

Assessment:
The in-class test will assess all four skills (reading, writing, speaking and listening) through tasks that match those participants will become familiar with over the course of the module.

Guidance: Please indicate the type(s) of assessment (eg examination, oral, coursework, project) and the weighting of each (%). Normally, each intended learning outcome should be assessed only once.

Assessment number	Learning Outcomes to be met	Type of assessment	Weighting (%)	Duration (if exam)	Word count (or equivalent if appropriate)
1	1, 2, 3, 4	In-class test	100	2 hours	N/A

Learning and Teaching Strategies:
The module will be delivered through lectures and computer lab sessions. The principles of Scaffolding Learning will be applied to ensure that participants are able to apply reading, writing, speaking and listening strategies developed during supervised learning to autonomous, unsupervised contexts, thus giving them greater confidence in dealing with similar language demands in the future. Participants will also be introduced to techniques to help them broaden their mental lexicon in terms of learning, retaining, recalling and using core STEM vocabulary effectively. Authentic but level-appropriate source materials and related activities will be included in the Course Kit. These will cover newspaper/magazine articles (e.g. *New Scientist, BBC Focus*), documentaries, programmes and films (e.g. *National Geographic*, *Discovery* Channels) and STEM lectures and talks (e.g. *TEDtalks*), as well as literature on the STEM landscape in the UK and STEM research at Wrexham Glyndŵr. Pair and small-group work will be emphasised in order to foster teamwork and develop interpersonal skills. During their private study time, participants will have access to lecture notes, supplementary materials and quiz activities on Moodle to support technology-enhanced independent learning.

Syllabus outline:

- Writing skills: sentence construction, clause structure, paragraph construction, cohesion, coherence, linking words/transition phrases
- Reading skills: skimming, scanning, identifying textual patterns
- Listening skills: listening for gist/specific details, note-taking
- Speaking skills: conversation skills, pronunciation
- Vocabulary skills: core STEM vocabulary, verb patterns, word formation, common collocations
- Grammar: modality (tense and aspect), word order, noun phrase features, verb phrase features, modifying phrase features
- STEM genres: extended definitions, process descriptions, problem-solution structures, compare-contrast structures, data commentaries
- Themed units on STEM research and other STEM topics

Bibliography:

Essential reading

School of Applied Science, Computing & Engineering (2017) *LAN474 Course Kit: English for STEM*, Wrexham: Wrexham Glyndŵr University.

Other indicative reading

Barr Ebest, S., Alred, G., Brusaw, C.T. and Oliu, W.E. (2004) *Writing from A to Z.* 5th ed. Columbus: McGraw-Hill Higher Education.

Butler, L. (2013) *Longman Academic Writing Series 1: Sentences to Paragraphs*. 2nd ed. White Plains: Pearson Education.

Canning-Wilson, C. (2015) *STEM Vocabulary for ELLs Speaking Northern European Languages*. Lanesborough: New England Global Network LLC.

Hogue, A. (2013) *Longman Academic Writing Series 2: Paragraphs*. 3rd ed. White Plains: Pearson Education.

McCarthy, M. and O'Dell, F. (2012) *English Vocabulary in Use: Upper-Intermediate.* 2nd ed. Cambridge: Cambridge University Press.

Murphy, R. (2012) *English Grammar in Use: Intermediate*. 3rd ed. Cambridge: Cambridge University Press.

Stephenson, H., Lansford, L. and Dummett, P. (2015) *Keynote Upper-Intermediate Student's Book*. Andover: National Geographic Learning, Cengage Learning.

West, C. (2010) *Recycle Your English*. 4th ed. Cambridge: Cambridge University Press.