The Hong Kong Polytechnic University

Subject Description Form

Please read the notes at the end of the table carefully before completing the form.

Subject Code	ENGL4022
Subject Title	Quantitative literacy for language professionals
Credit Value	3
Level	4
Pre-requisite / Co-requisite/ Exclusion	N.A.
Objectives	Quantitative literacy is the ability to solve real world problems with mathematical skills, and is valuable even in language-related professions such as language teaching, sales and marketing, and media and journalism. This subject equips future language professionals with practical quantitative skills for describing and analyzing language-relevant information, thereby adding value to their primary skillset. Students will learn how these skills complement verbal persuasion, analysis, and presentation in real life contexts where a strong emphasis is placed on quantifiable facts. No extensive mathematics background is required. The subject adopts a thematic and problem-based approach to meet the following objectives. 1. Introduce **general quantitative skills** to frame and solve problems which arise in the context of language professions 2. Equip students to address quantitative issues in **language teaching**, including student assessment and evaluation of teaching and learning processes 3. Equip students to address quantitative issues in **sales and marketing**, including the analysis of market surveys and sales trends 4. Equip students to address quantitative issues in **media and journalism**, including the critical understanding of opinion polls, metrics and rankings Students will benefit from an interactive pedagogical approach with balanced individual and group assessment tasks. Classroom and independent learning will be further supported by open-source statistical analysis software (JASP) and Microsoft Excel.
Intended Learning Outcomes *(Note 1)*	Upon completion of the subject, students will be able to: (Professional/academic knowledge) a. Apply basic statistical knowledge to describe and make inferences with

	language-related information (Literacy skills) b. Recognize and produce quality work reflecting the complementary nature of verbal and numerical literacy in the workplace (Higher order thinking skills) c. Integrate verbal and numerical modes of reasoning to define and solve real world problems in different language-related contexts (Life-long learning skills) d. Develop critical and enduring awareness of the applicability of quantitative skillsets in language professions
Subject Synopsis/ Indicative Syllabus *(Note 2)*	**<u>Introduction</u>** **Week 1-4** • What quantitative literacy means to language professionals • Basic descriptive statistics (e.g. data presentation, variables, levels of measurement) • Basic inferential statistics (e.g. hypothesis testing for comparisons and correlations) **<u>Theme 1: Quantitative literacy in language teaching</u>** **Week 5-6** • Describing student characteristics • Monitoring student performance • Evaluating effectiveness of pedagogical practices **<u>Theme 2: Quantitative literacy in sales and marketing</u>** **Week 7-8** • Designing and analyzing verbal-numerical customer feedback surveys • Presenting quantitative information in sales reports • Combining rhetoric with statistics for persuasion **<u>Theme 3: Quantitative literacy in the media</u>** **Week 9-10** • Critically evaluating media information like opinion polls, metrics, and rankings **<u>Summary and assessment</u>** **Week 11-13** • Course summary • Group presentations on applying quantitative skills to address a real-life problem in language professions
Teaching/Learning Methodology *(Note 3)*	The maximum class size of 30 allows for an interactive pedagogical approach. Each weekly session will last three hours, with a two-hour lecture immediately followed by a one-hour tutorial. In the lecture, the instructor will impart concepts supported by regular small group activities. This will be the main channel for transmitting **professional and academic knowledge** (intended learning outcome a.) In the tutorial, students will work on and present solutions to challenging discussion questions related to the lecture. While consolidating knowledge, they

also reflect practical and realistic scenarios students are likely to face in the future, thus encouraging the development of **higher order thinking skills** and **life-long learning** (intended learning outcomes c. and d.). Tutorial learning will be supported by open-source computer software (e.g. JASP) and Microsoft Excel.

Assessment also comprises an important part of the teaching and learning methodology. There will be one individual take-home assignment and one in-class quiz which encourages independent research and allows room for critical thought. There will also be a group project and presentation where students apply quantitative analytical skills to frame and solve a hypothetical but realistic problem in a language profession. This supports development of teamwork and **literacy skills** (intended learning outcome c.)

Assessment methods and components may vary according to class size.

Assessment Methods in Alignment with Intended Learning Outcomes

(Note 4)

Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)			
		a	b	c	d
1. Take-home assignment (short questions on first half of the subject)	35	/	/	/	/
2. In-class quiz (short questions on second half of the subject)	35	/	/	/	/
3. Group project presentation	30	/		/	/
Total	100 %				

The take-home assignment and in-class quiz require students to demonstrate the attainment of all four intended learning outcomes (professional knowledge, literacy skills, higher order thinking skills, and life-long learning) with both verbal and numerical analysis and output. Accordingly, they are each weighted 35%.

While the group project is a culmination of the whole semester's learning, it will be delivered as a verbal presentation with less emphasis on writing skills. It is accordingly weighted 30%..

Student Study Effort Expected		
	Class contact:	
	▪ Lecture + tutorial (3 hours x 13 weeks)	39 Hrs.
	Other student study effort:	

	▪ Independent reading (3 hours x 13 weeks)	39 Hrs.
	▪ Independent/group research (2 hours x 13 weeks)	26 Hrs.
	▪ Doing assignments (2 hour x 13 weeks)	26 Hrs.
	Total student study effort	91 Hrs.

Reading List and References

Background on QL

These provide background information on QL and argue for its importance in general tertiary education.

Steen, L. A. (2001). The case for quantitative literacy. In L. A. Steen (Ed.), Mathematics and democracy (pp.1–22). Princeton,NJ: Woodrow Wilson National Fellowship Foundation.

Technical knowledge

These are taken from textbooks and focus on statistical analysis/other concepts rather than their social applications. They will strengthen your understanding but are not strictly necessary if you can follow the lectures and use JASP. They can also be replaced with other statistics textbooks/guides on the same topics.

Boslaugh, S. (2012). *Statistics in a Nutshell*. Sebastopol: O'Reilly.

Jones, S. (2010). *Statistics in Psychology. Explanations without equations.* Basingstoke: Palgrave Macmillan**.**

Walker, I. (2010). *Research Methods and Statistics*. Basingstoke: Palgrave Macmillan.

Longaker, M. G., & Walker, J. (2010). *Rhetorical Analysis. A Brief Guide for Writers*. London: Longman.

Reports

These are real life reports and/or datasets on various social issues which will be discussed and used as examples in class.

The Economist Intelligence Unit. (2018). *Making space: Surviving Sprawl*.

Sustainable Solutions Development Network. (2018). *World Happiness Report.*

Further readings

These offer further information to enrich your understanding beyond the subject. They are optional but highly recommended if you continue to develop an interest for quantitative literacy.

Crauder, B., Evans, B., Johnson, J., & Noell, A. (2015). *Quantitative*

	Literacy: Thinking Beyond the Lines. New York: W. H. Freeman. **Scholfield, P.** (1995). *Quantifying Language. A Researcher's and Teacher's Guide to Gathering Language Data and Reducing it to Figures*. Bristol: Multilingual Matters.

Note 1: Intended Learning Outcomes
Intended learning outcomes should state what students should be able to do or attain upon completion of the subject. Subject outcomes are expected to contribute to the attainment of the overall programme outcomes.

Note 2: Subject Synopsis/ Indicative Syllabus
The syllabus should adequately address the intended learning outcomes. At the same time over-crowding of the syllabus should be avoided.

Note 3: Teaching/Learning Methodology
This section should include a brief description of the teaching and learning methods to be employed to facilitate learning, and a justification of how the methods are aligned with the intended learning outcomes of the subject.

Note 4: Assessment Method
This section should include the assessment method(s) to be used and its relative weighting, and indicate which of the subject intended learning outcomes that each method purports to assess. It should also provide a brief explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes.