UNIVERSITY OF PANNONIA

COURSE DATASHEET

Semester:	2015/16/1
Course:	Science theory and scientific communication
Code:	VEMKLIM114T
Responsible department:	Department of Limnology
Department code:	MKLI
Responsible instructor:	Dr. Judit Padisák

Course objectives:

Course content:

What is science? The scientific method. What is a fact? Building scientific hypoteheses. The scientific truth. Empirical and explanatrory theories. Ways of knowledge (Aristotle, induction and deduction, logical positivism, Karl Popper, Growth of science. Normal science and pseudoscience. Science and ecology. Good theories and bad theories. Systems analysis. Case study: Tthe Char lake project. Creativity, motivation, IQ. The paradox of teaching science. What is the benefit of the society in supporting science? Forms of scientific dissemination Good thesis applications; specifics of theses Good and bad lectures Good and bad posters Writing scientific papers, types of journals. Is my paper local, natiional or international? The hierarchy of journals and publications Search for existing data The IMRAD structure Impact factors, h-index, number of citations and other measures of impact. Open access publishing. The refereeing process. Some tips for scientific writing: one paper – one story!

Requirements, evaluation and grading:

Required and recommended readings:

Riegler, F. H. & R. H. Peters (1995): Science and limnology. Ecology Institute, Oldenburg/Luhe. Legendre, L. (2004): Scientific research and discovery: process, consequences and practice. Davis, M. (2004): Scientific papers and presentations. Academic Press, New York. Alley, W. (2003): The craft of scientific presentations. Critical steps to succed and critical errors to avoid. Springer.