Module Handbook (Description of Course Unit)

Course designation	Ethnomathematics
Semester(s) in which the Course is taught	5th (fifth)
Person responsible for the Course	Agus Prasetyo Kurniawan
Language	Indonesian Language
Relation to curriculum	Elective
Teaching methods	Lecture (L), Group Discussion (GD), Tutorials (T), Presentation (P)
Workload (incl. contact hours, self-study hours)	Total workload: 119 Hours in Class, specified in hours: 35 (Lecture) Private study including examination preparation, specified in hours: 84
Credit points	3 CP / 4.8 ECTS
Required and recommended prerequisites for joining the Course	1. Psychology and Strategies in Mathematics Teaching and Learning 2. Philosophy of Mathematics Education

Course objectives/intended learning outcomes	The students demonstrate the attitudes of being honest, disciplined and responsible when attending and doing the assignments in the course of Ethnomathematics. The students are capable of analyzing the basic concepts of ethnomathematics and its studies from various academic sources and articles from reputable journals. The students are able to identify cultural aspects in society and relate them to mathematics education, to analyze various ways to integrate the cultural aspects with Islamic values and mathematics teaching and learning and to apply ethnomathematics in the teaching and learning in order to develop their professional competency as mathematics teacher.
Content	Ethnomathematics discusses: ● the nature, rationale and perspectives of ethnomathematics, ● context and integration of culture and Islamic values in ethnomathematics, ● theoretical review, review of previous studies, and research approaches in ethnomathematics, ● development of teaching instruments based on ethnomathematics.
Examination forms	● Final examination: Case Based Study (1 Week) ● Mid-term examination: Exam Paper (1 Week) ● Presentation: Presentation Material
Study and examination requirements	Requirements for successfully passing the Course: ● Attendance 10% ● Assignments 30% ● Mid-evaluation 20% ● Final Evaluation 40% The minimum grade to pass the course is C (61)

Reading list	1. Abdullah, AS. 2017. Ethnomathematics In Perspective Of Sundanese Culture. *Journal on Mathematics Education*, 8(1), 1-16. 2. Aditya, Dedy Yusuf. 2017. Eksplorasi Unsur Matematika Dalam Kebudayaan Masyarakat Jawa. *Jurnal Formatif* 7(3): 253-261, 2017 ISSN: 2088-351X. 3. Agung Hartoyo. 2012. *Eksplorasi Etnomatematika pada Budaya Masyarakat Dayak Perbatasan Indonesia-Malaysia Kabupaten Sanggau Kalbar*. http://jurnal.upi.edu/file/3-agung.pdf. 4. Albanese, V. & Perales, F.J. 2015. Enculturation with ethnomathematical projects: from culture to mathematics. *Journal of Mathematics and Culture*, 9 (1), February. 5. Almuna Salgado, F. 2017. The Role Of Context And Context Familiarity On Mathematics Problems. *Revista Latino americana de Investigación en Matemática Educativa*.20 (3): 265-292. 6. Astri Wahyuni. 2013. *Peran Etnomatematika dalam Membangun Karakter Bangsa*. Yogyakarta. http://eprints.uny.ac.id/10738/1/P%20-%2015.pdf. D'Ambrosio, U. 1991. Ethnomathematics and its place in the history and pedagogy of mathematics, in M. Harris (ed.). *Schools, Mathematics and Work*. The Falmer Press. London. pp. 15–25 7. D'Ambrosio, U. 1994. Cultural framing of mathematics teaching and learning, in R. Biehler, R.W. Scholz, R. Sträßer and B. Winkelmann (eds.). *Didactics of Mathematics as a Scientific Discipline*. Kluwer Academic Publishers. Dordrecht. pp. 443–455

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9. Francois, K. & van Kerkhove, Bart. 2010. Ethnomathematics and the philosophy of mathematics (education). In B. Lowe & T. Muller (Eds.), *Philosophy of Mathematics : Sociological Aspects and Mathematical Practice* (pp 121-154). London : College Publications.
10. Heron, J. & Bart, J. 2009. Culturally relevant word problems in second grade : what are the effects ? *Journal of Mathematics and Culture*, 4 (1), October.
11. Holt, Rinehart, Winston. 2006. *Mathematics in Context*. Chicago: Encyclopædia Britannica, Inc.
12. Iluno, C. and Taylor, J.I. 2013. Ethnomathematics: The Key to Optimizing Learning and Teaching of Mathematics. Lagos: *IOSR Journal of Research & Method in Education* (IOSR-JRME).
13. Irawan, A, Lestari, M. Rahayu, W. & Wulan R. 2019. Ethnomathematics Batik Design for the Island of Bali. *Journal of Physics*. Conference Series, 1338(1), 012045.
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16. Nur, AS., Kartono, K., Zaenuri, Z., Waluya, SB., & Rochmad, R. 2020. Ethnomathematics Thought And Its Influence In Mathematical Learning. *MaPan*. 8(2), 205-223
17. Nur, AS., Waluya, SB., Rochmad, R., Wardono, W. 2020. Contextual Learning with Ethnomathematics in Enhancing the Problem-Solving based on Thinking Levels. *Journal of Research and Advances in Mathematics Education*, 5(3), 331–344.
18. Orey, D. C & Rosa, M. 2008. Ethnomathematics and cultural representations: Teaching in highly diverse contexts. *Acta Scientiae*, v.10, n.1, jan/jun. 2008.
19. Prahmana, RCI, Yunianto, W., Rosa, M., & Orey, DC 2021. Ethnomathematics: Pranatamangsa System And The Birth-Death Ceremonial In Yogyakarta. *Journal on Mathematics Education* Volume 12, No. 1, January 2021, pp. 93-112.
20. Risdiyanti, I., Prahmana, RCI, & Shahrill, M. 2019. Social Arithmetic Learning Trajectory Using Traditional Indonesian Games. *Online Basic Education*, 18 (4), 2094-2108.
21. Rosa, M. & Orey, D. C., 2011. Ethnomathematics: the cultural aspects of mathematics. *Revista Latinoamericana de Etnomatemática*, 4(2). 32-54
22. Rosa, M., & Orey, DC. 2016. Ethnomodelling as a Theoretical Framework for Research on Ethnomathematics and Mathematical Modelling. *Journal of Urban Mathematics Education*. 6(2), 62-80
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	24. Stigler, J. W. & Baranes, R. 2016. Culture and Mathematics Learning. *Review of Research in Education*, Vol. 15 (1988 - 1989), pp. 253-306 Published by: American Educational Research Association. 25. Sutarto, A. 2006. Becoming a True Javanese: Javanese Views on Javanization Efforts. *Indonesia and the Malay World* . Volume 34, Issue 98. 26. Suwarsono, St. 2003. *Kebudayaan, kecenderungan kognitif, dan pendidikan matematika*. Widya Dharma, 13(2), April. 27. Suwarsono, St. 2009. *Guru sebagai Agen Transformasi Budaya, dengan Tinjauan Khusus tentang Peranan Pendidikan Matematika dalam Transformasi tersebut*. Yogyakarta : Penerbit Universitas Sanata Dharma. 28. Turmudi. 2018. Kajian Etnomatematika: Belajar Matematika Dengan Melibatkan Unsur Budaya. *Prosiding Seminar Nasional Etnomatnesia* 38 ISBN: 978-602-6258-07-6.