Stockholms universitet

Department of Mathematics and Science Education

Syllabus for course at the graduate level

Social Perspectives in Mathematics Education 7,5 ECTS credits

Course Code: UM011FN
Valid from: VT 2011
Approved: 2010-12-20
Responsible department: Department of Mathematics and Science Education

Decisions and guidelines
Syllabus for the course at the graduate level comprising 7,5 credits. Syllabus approved by the Department of Mathematics and Science Education 2010-12-20.

Admission requirements and other conditions for admission to the course
Admission to post-graduate program in Education, Curriculum Studies, Mathematics Education or equivalent at a university or college university.

Course Content
The course covers a range of theoretical approaches for understanding and studying mathematics education from a social perspective, focusing primarily on sociological theories but making connections to other approaches used in the field (e.g. socio-cultural approaches, ethnomathematics, etc.). The content is organised under three major themes: (1) Discourse and Discourses; (2) The Individual in Society; (3) Class, Gender and Ethnicity. Within each theme we consider theoretical resources and examples of their use within mathematics education research. Supplementary themes may be added depending on the students' research interests. The methodological implications of adopting particular theoretical perspectives are discussed.

Learning outcomes
After studying this course students should be able to:

- make use of a range of theoretical resources to critically evaluate studies in mathematics education that adopt social perspectives
- appreciate differences and similarities between the various theoretical perspectives discussed during the course
- relate theoretical constructs encountered during the course to their own study

Teaching structure
Lectures, literature seminars, group exercises.

Forms of examination
a. Examination through

• written reports
• oral presentations
b. As grades are one of the following: Pass and Fail.
c. A student who fails a regular examination is entitled to take at least four additional examinations as long as the course is offered. With examinations denote also other compulsory course elements. Students who fail the examination twice have the right to request that another teacher be appointed to the grade of the course. A request for such must be made to the departmental board.

Transitional regulations
After the syllabus has expired, the student is entitled to participate in examination, however, no more than three times over a period of two years after the course has ended. Students may request that the examination is carried out according to this syllabus even after the syllabus has expired, at a maximum of three times. Such a request must be made to the board of the department.

Required reading

Core reading
Barwell, R. (2002). Bilingual identity and empowerment in school mathematics. Paper presented at *Il simposio international bilinguismo*, Vigo. http://webs.uvigo.es/ssl/actas2002/03/02.%20Richard%20Barwell.pdf
Bernstein, B. (2000). Pedagogy, Symbolic Control and Identity: Theory, Research and *Critique* (revised ed.). Lanham: Rowman and Littlefield.
Bourdieu, P. (1990). The Logic of Practice. Oxford: Blackwell.
Chouliaraki, L., & Fairclough, N. (1999). Discourse in Late Modernity: Rethinking Critical Discourse Analysis. Edinburgh: Edinburgh University Press.
Edwards, D. (1997). Discourse and Cognition. London: Sage.
Foucault, M. (2002). Vetandets arkeologi [The Archaeology of knowledge]. Lund, Sweden: Arkiv förlag.
Hardy, T. (2000). Tracing Foucault's power in the mathematics classroom. In T. Rowland & C. Morgan (Eds.), *Research in Mathematics Education Volume 2: Papers of the British Society for Research into Learning Mathematics* (pp. 207-224). London: British Society for Research into Learning Mathematics.
Morgan, C. (2009). Understanding practices in mathematics education: Structure and text. In M. Tzekaki, M. Kaldrimidou & H. Sakonidis (Eds.), *Proceedings of the 33rd Conference of the International Group for the Psychology of Mathematics Education* (Vol. 1, pp. 49-64). Thessaloniki, Greece.
Wistedt, I. and Brattström G. (2005). Understanding mathematical induction in a cooperative setting. In Chronaki, A. & Christiansen, I. M. (Eds.). *Challenging perspectives on mathematics classroom communication*. (pp. 173-203) Greenwich, CT: Information Age Publishing.
Zevenbergen, R. (2001). Mathematics, social class and linguistic capital: An analysis of mathematics classroom interactions. In B. Atweh, H. Forgasz, & B. Nebres (Eds.). (2001). *Sociocultural Research on Mathematics Education: An international perspective*. (pp. 201-215). MahWah, NJ: Lawrence Erlbaum Associates.

Optional reading

Background Reading
Atweh, B., Forgasz, H., & Nebres, B. (Eds.). (2001). *Sociocultural Research on Mathematics Education: An international perspective*. MahWah, NJ: Lawrence Erlbaum Associates.
Black, L., Mendick, H. and Solomon, Y. (eds) (2009). *Mathematical Relationships in Education: identities and participation*. New York: Routledge

Christie, F. (Ed.). (1999). Pedagogy and the Shaping of Consciousness: Linguistic and Social Processes. London: Continuum.

Chronaki, A. & Christiansen, I. M. (Eds.). (2005). *Challenging perspectives on mathematics classroom communication*. Greenwich, CT: Information Age Publishing.

Dowling, P. (1998). The Sociology of Mathematics Education: Mathematical Myths/ Pedagogic Texts. London: Falmer.

Ernest, P., Greer, B., & Sriraman, B. (Eds.). (2009). *Critical issues in mathematics education*. Charlotte, NC: Information Age Publishing.

Grenfell, M., & James, D. (1998). Bourdieu and Education: Acts of Practical Theory. London: Falmer.

Holland, D., Skinner, D., Lachicotte Jr., W., & Cain, C. (2001). Identity and Agency in Cultural Worlds. London: Harvard University Press.

Mills, S. (1997/2004). Discourse, the new critical idiom. Oxon: Routledge

Nasir, N. S. & Cobb, P. (Eds.). (2006). *Improving Access to Mathematics*. Teachers College Press

Popkewitz, T., & Brennan, M. (Eds.). (1998). Foucault's Challenge: Discourse, Knowledge, and Power in Education. New York, NY: Teachers College Press.

Valero, P. & Zevenbergen, R. (Eds.). (2004). *Researching the socio-political dimensions of mathematics education: Issues of power in theory and methodology*. Dordrecht, The Netherlands: Kluwer Academic Publishers.