

## Assignments $\mathcal{N}^0$ 3 - PART II

**released:** 30.11.2011      **due:** 06.12.2011, 10AM

### Task 1: R and ERGMs

**extra points**

Reconsider the degenerated ERGM model in the code example from the lecture.

- (a) Approximate the expected number of triangles in such an ERGM and compare this value with a histogram of the actual number of triangles in, say, 100 random graphs drawn from this model.
- (b) Exchange the *triangle* statistic with the *geometrically weighted edge-wise shared partners* statistic. How do things look now?

Now, turn to the built-in example dataset in the code example from the lecture. Which of the attributes "Grade", "Race" and "Sex" give rise to homophily? Provide according parameter estimates.