



אוניברסיטת בן-גוריון בנגב
הפקולטה למדעי הטבע - המחלקה למדעי המחשב
סמסטר א' תש"ע

סילבוס קורס

שם הקורס :

נושאים מתקדמים בזיכרון טרנזקציוני

Seminar on Transactional Memory

מס' קורס : 202-2-5621

סוג קורס : בחירה
נק"ז : 2.0

מרצה הקורס : ד"ר דני הנדלר
קורסי קדם : תכנון אלגוריתמים, מערכות הפעלה

While being used in the past mainly for high-end server machines, shared-memory multiprocessors, and specifically *multi-core machines*, have become the standard on desktops and are already starting to also dominate the laptop market. Algorithms for multiprocessor systems are, in general, more complicated than sequential algorithms. This is because of the need to synchronize and coordinate threads running on different processors.

Lock-based synchronization is either not scalable (if coarse-grained locks are used) or is error-prone (if fine-grained locks are used). **Transactional Memory** is a relatively new programming abstraction for multiprocessors that is the focus of intense research by companies such as Sun, Intel, IBM and Microsoft. Borrowing ideas from database transactions and applying them to shared-memory synchronization, it is considered to have the potential of supporting efficient and easy-to-use synchronization.

In this seminar, you will read and present papers dealing with this very active research area.