

שם הקורס : סמינר במערכות אחסון מידע
Seminar on Storage Systems: SSD state-of-the-art
236834 אביב תשפ"ב

מרצה:	ד"ר גלה ידגר
שעות הרצאה:	שלישי 12:30-14:30
דרישות קדם:	מערכות הפעלה (234123) - חובה מערכות אחסון (236322) ו/או תכנות מקבילי ומבוזר (236370) - יתרון

תאור הקורס

Flash-based solid-state drives (SSDs) have gained a central role in the infrastructure of large-scale datacenters, as well as in commodity servers and personal devices of all sizes. Their quick adoption was motivated by the ability of SSDs to support fast random access and parallel I/O, but required overcoming major challenges that stem from the physical properties of the flash media.

In this seminar, we will review academic papers in top-tier venues that show the various aspects in which SSDs influenced the way storage systems are designed and optimized. We will cover a range of topics including low-level and array-level performance, endurance, failure and recovery, as well as SSD-based optimizations of caching, file systems, databases, model training, and graph processing.

Through the prism of SSD design and deployment, we will learn when, why, and how the storage industry modifies legacy interfaces, rebuilds parts of the operating system, and redesigns applications in light of new technologies and their unique advantages and limitations.

The list of papers will be published shortly before the beginning of the semester.

דרישות הקורס

The course will combine lectures by the instructor with independent reading in a seminar format. The students will read important papers in the field and will present them in class along with their background.

- Attendance is mandatory. Classes will be held according to the Technion's instructions (*physical/online/hybrid*) at the start of the semester.
- Students are expected to familiarize themselves with each paper prior to class.
- *Undergraduate* students will present papers in pairs. *Graduate* students will present one paper each.
- There is no exam.

רישום

Please email the following information to Gala Yadgar:

- Name and ID.
- Whether you are a graduate or undergraduate student (which semester).
- Related courses you took.
- Other relevant information such as related projects, industry experience, etc.