The course teaches fundamentals and advanced topics of operating system engineering. **Students will implement, from scratch, a minimalistic (yet fully functional) operating system** that supports virtual memory, kernel and user mode, system calls, threads, context switches, interrupts, interprocess communication, coordination of concurrent activities, file system I/O, and networking. The students will learn advanced topics from the forefront of operating systems research and will implement one of them in the final project.

The workload consists of two short quizzes and six practical exercises, culminating in the project which will be presented by the students in the final lecture at the end of the semester. The course fulfills one project requirement for undergraduates.

**Academic credit points: 4**

- 3 points for 236366, plus
- 1 point for 234291 (the registration to 234291 will be performed by the secretarial office, not the students)

**Staff:**

- Lecturer: Dr. Dan Tsafrir (dan@cs)
- TAs: Muli Ben-Yehuda and Ilia Kravets

**Prerequisites:**

- 234123 (operating systems), or
- 046209 (structure of operating systems) and 046210 (lab in operating systems)

**Limited number of participants:**

- The number of participants is limited, but at least 30 students will be admitted.
- All students will be able to register to the course; the identity of those accepted students will be determined at the end of the first week of the semester.

The course provides an in-depth understanding of operating systems design and implementation. Students will gain hands-on experience with a variety of system-level concepts and techniques, including virtual memory, context switching, interrupts, and file I/O. The final project will allow students to apply their learning in a practical setting, working on a real-world operating system from scratch.

**Limited number of participants:**

- At least 30 students will be admitted to the course.
- All students will be able to register and participate in the course.
- The identity of accepted students will be determined at the end of the first week of the semester.

**Academic credit points:**

- 3 points for 236366
- 1 point for 234291

**Staff:**

- Lecturer: Dr. Dan Tsafrir (dan@cs)
- TAs: Muli Ben-Yehuda and Ilia Kravets

**Prerequisites:**

- 234123 (operating systems)
- 046209 (structure of operating systems)
- 046210 (lab in operating systems)

**Limited number of participants:**

- Up to 30 students will be admitted to the course.
- All students will be able to register and participate in the course.
- The identity of accepted students will be determined at the end of the first week of the semester.