Teaching portfolio

1. Teaching CV: A list of teaching and supervision tasks, including specification of academic fields, scope, level (bachelor, master, continuing education, PhD). Please state the teaching method used (e.g. lecture, class teaching, exercises, supervision, examination, coexamination, distance teaching, internet-based teaching and evaluation of teaching). Please also indicate the language of instruction.

Database Systems Management - 8 iterations, Undergraduate, lecture / flipped-classroom, written exam, in Hebrew (slides in English), one year as a remote course due to COVID.
Big Data Management - 4 iterations, Undergraduate, lecture / flipped-classroom, written exam, in Hebrew (slides in English), one year as a remote course due to COVID.
Business Intelligence and Data Warehouses- 2 iterations, Undergraduate, flipped-classroom, written exam, in Hebrew (slides in English), one year as a remote course due to COVID.
Linked Data Management- 2 iterations, Undergraduate, flipped-classroom, written exam, in Hebrew (slides in English), one year as a remote course due to COVID.
Supervision of Information Systems Capstone projects - about 12 groups, in Hebrew.
Supervision of PBL project groups - 3 iterations, Undergraduate and Masters, in English.
Supervision of Master's students on a thesis - Koby Bar, Tony Zeitoun, Qais Abu-Hussein, Keren Segal, Olga Seleznova.
Supervision of Master's student on Capstone project - Shimon Aharonov, Zehavit Ganon, Amitai Hochshtatt

2. Study/programme administration and management: Experience in programme management and coordination. A list of study administration tasks, e.g. study board membership, chair of study board, semester or course coordinator, accreditation tasks, etc. Experience in planning teaching activities. Experience in programme development. Participating in committees and commissions etc. on education issues.

Member of the study program reorganization committee at the department of Information Systems, University of Haifa.

3. Formal pedagogical training: A list of completed courses in university pedagogy, PBL courses, workshops, academic development projects, collegial guidance and supervision, etc. Written assessment from the course in university pedagogy for assistant professors. Participation in conferences on pedagogy and didactics. Please enclose any documentation of the above, such as course certificates, references, etc

Attended an introductory teaching course for teaching assistants and lecturers, Technion, Israel, 2009.

Attending University pedagogy for assistant professors, completion expected in January 2023.

Attended a Ph.D. supervision workshop from the AAU Ph.D. school.
Following anecdotal evidence of students reaching the final exam less prepared when skipping class for video lectures, I initiated a study to quantify the effect. The work was presented at the MEITAL conference for the use of technology in education (Tel-Aviv, Israel, 2014). We found that especially mediocre and low-performing students tend to suffer from low grades when opting to view the lecture by video rather than participate. It should be noted that the study was performed on regular frontal lectures given by a different lecturer and not the advanced, activity-full meetings which I had introduced. Thus, although the information a viewer could obtain by watching the video lecture was, in principle, the same as what they could obtain by attending, the experience was not.
UP Electives - Bildung and PBL, Integrating research into teaching.

4. Other qualifications: Conference contributions and attendance, contributions to debates, scientific articles on pedagogical issues etc. Peer supervision, editorials, mentoring experience or other types of competence development activities.

Mentored by Dr. Einat Minkov during first two years of teaching at the University of Haifa.
Mentored on teaching and supervision by Prof. Gabriela MOntoya and Prof. Xiangyun Du at AAU.

5. Pedagogical development and research: Development of new courses, teaching materials, teaching methods, examination types or other types of pedagogical development. Didactic and pedagogical research. Cooperation with external collaboration partners.

Developed four new courses. At the University of Haifa - Big Data Management, BI and Data Warehouses, and Linked Data Management. At AAU - Big Data Processes (in progress).

6. References on your teaching skills from superiors or colleagues. Teaching evaluations and any teaching awards received.

None

7. Personal reflections and initiatives: Here you may state any personal deliberations as regards teaching and supervision, any wishes and plans for further pedagogical development, plans for following up on student feedback/evaluations, etc. Personal reflections on your own pedagogical practice, including objectives, methods and implementation. This should include an analysis and a reasoned description of your pedagogical activities in relation to your pedagogical understanding and student learning. Thoughts on the teaching method at Aalborg University (which is largely based on group-organised project work and problem-based learning)

I view teaching as one of my callings and have taken pride in teaching and mentoring students over the years. I embrace this part of the academic profession and welcome the opportunity to contribute to the professional careers of students.

On the third year of my Bsc. I decided to opt for an exchange semester at the University of Oklahoma (OU). Among other courses, I enrolled to Organizational Behavior, given by Prof. Larry K. Michaelsen, who innovated and championed \emph{Team-Based Learning}~\cite{michaelsen2002}. In his course I came to appreciate the strength of group discussions and teamwork in class-room settings and saw in action a number of teaching principles which I would thereafter adopt and become an advocate for. I should note that in addition to Prof. Michaelsen, three of my other teachers at OU subscribed to similar ideas and either implemented Michaelsen's techniques to the letter or borrowed from his principles to their teaching. Through these experiences and from my own experience as a lecturer, evolved my teaching philosophy.

I believe (a belief supported by educational research) that effective learning requires emotional engagement. We remember events and profound experiences. Thus, principles explained through a memorable event we experienced first hand are better retained. I view in-person meetings as rare opportunities which should be dedicated to discussion, demonstrations and group work rather than spent transferring facts and introducing terminology. Students should be encouraged to arrive in class having read the facts and terminology. Positive reinforcement and rewards can be used to ensure their preparedness.

I strive to make assignments unique and challenging reducing the chance of students referring to previous-year colleagues for answers. I believe homework or classwork which receives specific and personal feedback becomes an effective teaching tool. It is better to have less classwork and give more detailed feedback.

During the years I have taught database courses, I have developed numerous activities to increase the engagement of students and the memorability of principles, even in large classes. For example, to demonstrate the principles of hash based sorting, I engaged the students by asking them to form groups by residence area before creating a complete ordering. Subsequently, I demonstrated manual ordering by pairwise comparison to observe the difference in efficiency. Similarly, I demonstrated the utility of using different query operators by simulating a database query using actual data stored in various places in the department. Retrieval of query results with the assistance of indexes and without, thus became a physical experience.

Both as a teaching-assistant and as a Lecturer, I implemented a flipped-classroom approach, considered unorthodox in Israeli Engineering programs establishments. As part of the implementation I installed a pre-class quiz system to ensure students had read the relevant book chapter/paper before class. I further performed systematic reduction of the number of examples presented by a lecturer/TA and replaced them with group exercises the students with the lecturer/ TA moving among them to give feedback and offer assistance.

With respect to project supervision (In Israel, students have a single capstone project), I have strived to use the opportunity to educate students in modern software project management principles. Every project team which approached me underwent a guided planning session where they authored a work-breakdown-scheme and divided the tasks to sub-teams. I also paid special attention to tutoring the project manager which was directed to use principles from rapid-prototyping, test-based development, and cyclic development to ensure both software and specification documents co-evolve with the evolution of the team's understanding of the customer's requirements and their technological capabilities. I believe AAU's PBL principles to be a perfect match for my teaching philosophy and for my blend of professional and academic experience. So far I have found this belief to be justified and I enjoy project supervision very much.

8. Any other information or comments.

Type your answer here...