



CITY

# The Power of Math

How do we prepare our children for a future we can't predict and careers we can't even imagine?

**A**ccording to Prof. Roza Leikin, Dean of the Faculty of Education, the answer is clear, “The number of STEM (science, technology, engineering, and mathematics) jobs are growing as businesses and government agencies increase their use of big data to make decisions. In this environment, a carefully crafted mathematics curriculum – one that nurtures creativity, cognitive flexibility and collaborative skills – provides students with the knowledge and skills they need to succeed in STEM areas and beyond.”

The Faculty of Education, Israel's largest and most comprehensive faculty of education, is playing a central role in shaping mathematics education in the country. Home to the National Teachers' Centers for Elementary and High School Mathematics Education, the Faculty trains and fosters professional leadership in Mathematics education in Israel's four education tracks (state-secular, state-religious, independent religious and Arab).

Mathematics education in Israel became a high-profile issue seven years ago when then Minister of Education, Naftali Bennett, instituted a nationwide plan to increase the number of students studying advanced math (5 units) for the Bagrut (Matriculation) exams. Faced with

more heterogeneous classrooms, math teachers across the country required additional guidance to ensure that all students succeeded in meeting the higher academic standards.

Our faculty members became the national focal point for building capacity within the education system. The Faculty's Department of Mathematics Education developed research-based curricular materials that were grounded in emerging trends of educational neuroscience, educational technology and awareness of the importance of creativity. In addition, the Department supported educator networks where math teachers share ideas and resources, discuss best practices and receive constructive feedback.

**Prof. Roza Leikin** is Dean of the Faculty of Education and a professor of Mathematics Education and Gifted Education.



**“Through rigorous research, innovative curricular programs and professional development opportunities we are raising the overall level of literacy and proficiency of students in Israel in STEM and Humanities. Our goals are to prepare our graduates to take on leadership roles in the Israeli education system and help students reach their fullest potentials.”**

**The Department of Mathematics Education offers specializations in:**

Mathematical Problem Solving

Mathematical Creativity and Ability

Mathematics Teacher Education

Mathematical Thinking and Brain

Technologies in Mathematics Education

## The Young Scientists Hub:

### Introducing Youth to Environmental Studies, the Arts and Society

**T**he University of Haifa is launching a new educational outreach program designed to expose young students from the full spectrum of Israeli society to the arts and sciences – and spark their interest in higher education.

The Hub will draw on the full range of UofH's academic offerings to introduce students to fascinating topics through hands-on activities, problem solving workshops, laboratory tours, Science Days and online classes.

Students will choose from a menu of engaging course offerings including (partial list):

- The Power of Mathematical Thinking
- Climate Change – Mitigation & Adaptation
- Current Topics in Marine Biology
- Entrepreneurship and Social Innovation
- Astrophysics – Reaching for the Stars
- Neuroscience and Cognition
- Cyber Security & Online Privacy
- Leadership, Diplomacy and Mediation
- Chinese Culture and Language
- Art and Ecology

We believe that early exposure to a fun and engaging academic experience will help youth in northern Israel develop a sense of belonging in higher education and lay the groundwork for future success.

