MINISTRY OF HIGHER EDUCATION, SCIENCE, AND TECHNOLOGY
UNIVERSITAS NEGERI SURABAYA
FACULTY OF MATHEMATICS AND NATURAL SCIENCES
UNDERGRADUATE PROGRAM OF MATHEMATICS EDUCATION
Ketintang Campus, Jalan Ketintang, C8 C9 Building, Surabaya 60231
Phone: +62 895335466373, email: s1-pmat@unesa.ac.id
Website: https://pendidikan-matematika.fmipa.unesa.ac.id/

Module Name:	Startup Product Development
Module Level:	Sarjana (S-1) / Undergraduate
Abbreviation, if applicable:	-
Sub-heading, if applicable:	-
Course included in the module, if applicable:	-
Semester/term :	8 / Fourth year
Module Coordinator(s):	Yurizka Melia Sari
Lecturer(s):	Yurizka Melia Sari, Nurus Saadah
Language:	Indonesia
Classification within the curriculum:	~~Compulsory course/~~elective studies
Teaching format/class hours per week during the semester	Teaching format: lectures, project-based tutorial assignment, and individual study 2 x 170 minutes = 340 minutes = 5.6 hours
Workload:	16 weeks per semester consisting of: • 1 hour lectures (1 x 50 minutes) per week, • 1 hour assignments (1 x 60 minutes) per week, ➢ 1 hour individual study (1 x 60 minutes) per week, Total workload : 16x2x170 minutes = 5,440 minutes = 90.67 hours=3.18 ECTS*
Credit Point:	2
Requirements:	N/A

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Learning Goals :	**PLO-2**	:	Demonstrate resilient, collaborative, adaptive, innovative, and inclusive character, lifelong learning, and an entrepreneurial spirit
	PLO-3	:	Develop logical, critical, systematic and creative thinking in carrying out specific work in the field of expertise and in accordance with the work competency standards in the relevant field
	PLO-10	:	Make data-based decisions in completing student assignments and evaluating work done
	PLO-11	:	Communicate ideas and research results rationally, effectively, and innovatively
	CLO-1	:	Demonstrate resilient, collaborative, adaptive, and innovative character and an entrepreneurial spirit (edupreneurship) by explaining startup, lean startup, and startup ecosystem concepts and identifying problem opportunities in education, particularly mathematics learning
	CLO-2	:	Analyse user problems, markets, and competitors logically, critically, systematically, and creatively to formulate the value proposition and business model of a startup product
	CLO-3	:	Make data-based decisions in developing a minimum viable product (MVP) through user testing, metrics, iteration, and pivoting, and evaluate the results of their work
	CLO-4	:	Communicate the product, business model, and validation results rationally, effectively, and innovatively through a pitch and report, with attention to ethics and intellectual property
Content:	This course equips students to develop a startup product, particularly in mathematics education (edupreneurship). Students study startup, lean startup, and startup ecosystem concepts; problem identification and customer discovery; value proposition, market and competitor analysis, and business models; the design and development of a minimum viable product (MVP); validation and data-based decisions (iteration and pivoting); and pitching, ethics, and intellectual property. The course is delivered through project-based learning and concludes with a demo day and a product report.		

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Study/exam achievements

- Students are considered competent and pass if the final score is at least 55 or C.
- Final score is calculated as follows:

Week	Course Learning Outcomes (CLO)	Programme Learning Outcomes (PLO)	Evaluation (%)
1	CLO-1	PLO-2	4
2	CLO-1	PLO-2	4
3	CLO-1	PLO-2	4
4	CLO-2	PLO-3	5
5	CLO-2	PLO-3	5
6	CLO-2	PLO-3	5
7	CLO-2	PLO-3	5
8	CLO-2	PLO-3	15
9	CLO-3	PLO-10	5
10	CLO-3	PLO-10	5
11	CLO-3	PLO-10	5
12	CLO-3	PLO-10	5
13	CLO-3	PLO-10	5
14	CLO-4	PLO-11	5
15	CLO-4	PLO-11	8
16	CLO-4	PLO-11	15

- Final index is defined as follow:

Index	Converted Score	Score Range
A	4.00	$85 \leq A \leq 100$
A-	3.75	$80 \leq A- < 85$
B+	3.50	$75 \leq B+ < 80$
B	3.00	$70 \leq B < 75$
B-	2.75	$65 \leq B- < 70$
C+	2.50	$60 \leq C+ < 65$
C	2.00	$55 \leq C < 60$
D	1.00	$40 \leq D < 55$
E	0.00	$0 \leq E < 40$

Forms of Media

Slides and LCD projectors, whiteboard, computers/laptops, prototyping tools, learning management system

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Literature	1. Ries, E. (2011). The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses. Crown Business. 2. Blank, S., & Dorf, B. (2012). The Startup Owner's Manual: The Step-by-Step Guide for Building a Great Company. K&S Ranch. 3. Osterwalder, A., & Pigneur, Y. (2010). Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers. Wiley. 4. Osterwalder, A., Pigneur, Y., Bernarda, G., & Smith, A. (2014). Value Proposition Design: How to Create Products and Services Customers Want. Wiley. 5. Fitzpatrick, R. (2013). The Mom Test: How to Talk to Customers & Learn If Your Business Is a Good Idea When Everyone Is Lying to You. CreateSpace. 6. Knapp, J., Zeratsky, J., & Kowitz, B. (2016). Sprint: How to Solve Big Problems and Test New Ideas in Just Five Days. Simon & Schuster. 7. Brown, T. (2009). Change by Design: How Design Thinking Transforms Organizations and Inspires Innovation. HarperBusiness.
Note	Based on the regulation of the minister of education and culture of Indonesia number 3 of 2020 concerning national higher education standards, it is state 1 CU equals to 170 minutes per week. Therefore, in one semester (16 weeks, including midterm a final exam) 1 CU = 170 X 16 = 2.720 minutes or 45.3 hours. Therefore, workhours in 144 CU x 45.3 hours = 6.523,2 hours. Unesa decided that 1 ECTS with 144 CU, 6.523,2/229 ECTS = 28.48 hours, so that 1 CU = 1.59 ECTS