



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/>

Undergraduate Program of Mathematics

Module Handbook

Module Name:	Visual Programming Pemrograman Visual
Module Level:	Sarjana (S-1) / Undergraduate
Abbreviation, if applicable:	8420202004
Sub-heading, if applicable:	-
Course included in the module, if applicable:	-
Semester/term:	1 / First year
Module Coordinator(s):	Evangelista Lus Windiyana Palupi, S.Pd., M.Sc.
Lecturer(s):	Evangelista Lus Windiyana Palupi, S.Pd., M.Sc. Shofan Fiangga, S.Pd., M.Sc. Nurus Saadah, S.Pd., M.Pd. Nina Rinda Prihartiwi, S.Pd., M.Pd. Dr. Lestariningsih, M.Pd.
Language:	Indonesia
Classification within the curriculum:	Compulsory course/ elective studies
Teaching format/classes hours per week	Teaching format: lectures, tutorial assignment, and individual Study/3 x 170 minutes = 510 minutes = 8.5 hours lectures



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during the semester																													
Workload:	16 weeks per semester consisting of: • 1 hour lectures (1 x 50 minutes) per week, • 1 hours assignments (1 x 60 minutes) per week, ➤ 1 hours individual study (1 x 60 minutes) per week, Total workload : 16x3x170 minutes = 8,160 minutes = 136 hours=4.8 ECTS*																												
Credit Point:	3																												
Requirements:	N/A																												
Learning Goals :	PLO-7 : Master pedagogical knowledge in teaching and evaluation in accordance with transformative curriculum developments and technological developments oriented towards realistic mathematics education and edupreneur-leadership PLO-8 : Demonstrate skills in designing, implementing, and evaluating adaptive and innovative technology-based, realistic mathematics learning PLO-10 : Make data-based decisions in completing student assignments and evaluating work done																												
Content:	This course examines the basic concepts of visual programming languages and how to use existing tools and software to transform digital-based mathematics learning by producing effective educational media applications and games. Visual design and graphic display are also introduced in this course, which concludes with a project to create an application for mathematics learning.																												
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: <table><tr><th>Week</th><th>Course Learning Outcomes (CLO)</th><th>Programme Learning Outcomes (PLO)</th><th>Evaluation (%)</th></tr><tr><td>1</td><td>CLO-1</td><td>PLO-7</td><td>5</td></tr><tr><td>2</td><td>CLO-1</td><td>PLO-7</td><td>5</td></tr><tr><td>3</td><td>CLO-1</td><td>PLO-7</td><td>0</td></tr><tr><td>4</td><td>CLO-1</td><td>PLO-7</td><td>12</td></tr><tr><td>5</td><td>CLO-1</td><td>PLO-7</td><td>0</td></tr><tr><td>6</td><td>CLO-1</td><td>PLO-7</td><td>12</td></tr></table>	Week	Course Learning Outcomes (CLO)	Programme Learning Outcomes (PLO)	Evaluation (%)	1	CLO-1	PLO-7	5	2	CLO-1	PLO-7	5	3	CLO-1	PLO-7	0	4	CLO-1	PLO-7	12	5	CLO-1	PLO-7	0	6	CLO-1	PLO-7	12
Week	Course Learning Outcomes (CLO)	Programme Learning Outcomes (PLO)	Evaluation (%)																										
1	CLO-1	PLO-7	5																										
2	CLO-1	PLO-7	5																										
3	CLO-1	PLO-7	0																										
4	CLO-1	PLO-7	12																										
5	CLO-1	PLO-7	0																										
6	CLO-1	PLO-7	12																										



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7	CLO-1	PLO-7	7
8	CLO-2	PLO-8	7
9	CLO-2	PLO-8	0
10	CLO-2	PLO-8	10
11	CLO-3	PLO-8	0
12	CLO-3	PLO-8	0
13	CLO-3	PLO-8	0
14	CLO-4	PLO-10	14
15	CLO-4	PLO-10	14
16	CLO-4	PLO-10	14

- 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

Literature

- Christodoulou, M., Szczygieł, E., Kłapa, Ł., & Kolarz, W. (2018). Algorithmic and Programming.
- Kuhlman, D. 2013 . A Python Book: Beginning Python, Advanced Python, and Python Exercises. MIT.
- Gaddis, T., & Halsey, R. (2014). Starting Out with App Inventor for Android. Pearson addison Wesley
- McManus, S. (2019). Scratch Programming in Easy Steps. In Easy Steps: Warwickshire. United Kingdom chrome-extension://efaidnbmninnibpcapjpcglclefindmkaj/https://www.sean.co.uk/downloads/2017files/Scratch-in-Easy-Steps-PDF-Sampler.pdf
- Fristanto, S. B., (). Mudah Membuat Game Edukasi dengan Construct SMK Negeri 9 Malang: Malang <https://bagus.smkn9malang.sch.id/web/?p=5474>.
- Lestariningsih, L., & Al Fareza, M. Z. (2024). Prospective Mathematics Teacher Students' Experiences in Visual Programming: Difficulties and



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	Obstacles in Designing Digital Media for Numeracy Learning. Jurnal Pendidikan MIPA, 25(4), 1678-1692.
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) $1 \text{ CU} = 170 \times 16 = 2.720 \text{ minutes}$ or 45.3 hours. Therefore, workhours in 144 CU $\times 45.3 \text{ hours} = 6.523,2 \text{ hours}$. Unesa decided that 1 ECTS with 144 CU, $6.523,2/229 \text{ ECTS} = 28.48 \text{ hours}$, so that $1 \text{ CU} = 1.59 \text{ ECTS}$