



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:	Sains Kognitif/ Cognitive Science
Module Level:	Sarjana (S-1) / Undergraduate
Abbreviation, if applicable:	8420202004
Sub-heading, if applicable:	-
Course included in the module, if applicable:	-
Semester/term:	8 th / Fourth year
Module Coordinator(s):	Dr. Elly Matul Imah, M.Kom
Lecturer(s):	Dr. Elly Matul Imah, M.Kom
Language:	Indonesia
Classification within the curriculum:	Compulsory course/ elective studies
Teaching format/class hours per week during the semester	Teaching format: lectures, tutorial assignment, and individual Study/ 2 x 170 minutes = 340 minutes = 5.7 hours lectures
Workload:	<p>16 weeks per semester consisting of:</p> <ul style="list-style-type: none">• 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, <p>Total workload : 16 x 2 x 170 minutes = 5,440 minutes = 90,67 hours = 3.1 ECTS*</p>
Credit Point:	2
Requirements:	N/A
Learning Goals:	<p>PLO 3: Develop logical, critical, systematic, and creative thinking in carrying out specific work in their area of expertise and in accordance with the work competency standards of the relevant field.</p> <p>PLO 4: Develop oneself sustainably and collaboratively.</p> <p>PLO 8: Make decisions based on data/information in completing tasks that are the student's responsibility and evaluating the work that has been done.</p>



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	PLO 10: Demonstrate pedagogical knowledge in designing, implementing and evaluating mathematics learning.																																																																				
Content:	This course explores the mind through the lenses of psychology, neuroscience, computer science, linguistics, anthropology, and philosophy. In short, it examines how we think. We will learn about the brain, artificial intelligence (robots), and how we produce and understand language. We will explore many topics, such as how we learn and understand the world around us, experimental techniques such as fMRI and EEG, and skills such as statistics and computers programs. This course will also highlight the importance of cognitive science and the many ways it is present around us. Our exploration of cognitive science will take many forms, such as reading and writing, discussing and listening, and experimenting and observing.																																																																				
Study/exam achievements	<ul style="list-style-type: none">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-4</td><td>5</td></tr><tr><td>2</td><td>CLO-1</td><td>PLO-4</td><td>5</td></tr><tr><td>3</td><td>CLO-1</td><td>PLO-4</td><td>5</td></tr><tr><td>4</td><td>CLO-2</td><td>PLO-3</td><td>5</td></tr><tr><td>5</td><td>CLO-2</td><td>PLO-3</td><td>5</td></tr><tr><td>6</td><td>CLO-2</td><td>PLO-3</td><td>5</td></tr><tr><td>7</td><td>CLO-3</td><td>PLO-8</td><td>5</td></tr><tr><td>8</td><td>CLO-3</td><td>PLO-8</td><td>15</td></tr><tr><td>9</td><td>CLO-3</td><td>PLO-8</td><td>5</td></tr><tr><td>10</td><td>CLO-4</td><td>PLO-4</td><td>5</td></tr><tr><td>11</td><td>CLO-4</td><td>PLO-4</td><td>5</td></tr><tr><td>12</td><td>CLO-5</td><td>PLO-10</td><td>5</td></tr><tr><td>13</td><td>CLO-5</td><td>PLO-10</td><td>5</td></tr><tr><td>14</td><td>CLO-5</td><td>PLO-10</td><td>5</td></tr><tr><td>15</td><td>CLO-5</td><td>PLO-10</td><td>5</td></tr><tr><td>16</td><td>CLO-5</td><td>PLO-10</td><td>15</td></tr></table>	Week	Course Learning Outcomes (CLO)	Programme Learning Outcomes (PLO)	Evaluation (%)	1	CLO-1	PLO-4	5	2	CLO-1	PLO-4	5	3	CLO-1	PLO-4	5	4	CLO-2	PLO-3	5	5	CLO-2	PLO-3	5	6	CLO-2	PLO-3	5	7	CLO-3	PLO-8	5	8	CLO-3	PLO-8	15	9	CLO-3	PLO-8	5	10	CLO-4	PLO-4	5	11	CLO-4	PLO-4	5	12	CLO-5	PLO-10	5	13	CLO-5	PLO-10	5	14	CLO-5	PLO-10	5	15	CLO-5	PLO-10	5	16	CLO-5	PLO-10	15
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	<ul style="list-style-type: none">Final index is defined as follow:<table><tr><th>Index</th><th>Converted Score</th><th>Score Range</th></tr><tr><td>A</td><td>4.00</td><td>$85 \leq A \leq 100$</td></tr><tr><td>A-</td><td>3.75</td><td>$80 \leq A- < 85$</td></tr><tr><td>B+</td><td>3.50</td><td>$75 \leq B+ < 80$</td></tr><tr><td>B</td><td>3.00</td><td>$70 \leq B < 75$</td></tr><tr><td>B-</td><td>2.75</td><td>$65 \leq B- < 70$</td></tr><tr><td>C+</td><td>2.50</td><td>$60 \leq C+ < 65$</td></tr><tr><td>C</td><td>2.00</td><td>$55 \leq C < 60$</td></tr><tr><td>D</td><td>1.00</td><td>$40 \leq D < 55$</td></tr><tr><td>E</td><td>0.00</td><td>$0 \leq E < 40$</td></tr></table>	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	$0 \leq E < 40$
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Forms of Media	Slides and LCD projectors, whiteboard																														
Literature	<ol style="list-style-type: none">Vladimír Kvasnička, et al, Artificial Intelligence and Cognitive Science, 2014, Faculty of Informatics and Information Technologies SUT in Bratislava.Jamie Ward, The Students Guide to Cognitive Neuroscience, 4th edition, Routledge, 2020.Dale Purves, Roberto Cabeza, Scott A. Huettel, Kevin S. LaBar, Michael L. Platt and Marty G.																														
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																														