

## THE CONTRIBUTION OF COURSE IN ACHIEVING LEARNING OUTCOME

No.	Course	LO1	LO2	LO3	LO4	LO5	LO6
1	Islam education	√					
2	Catholic education	√					
3	Christian education	√					
4	Buddhism education	√					
5	Hinduism education	√					
6	Confucianism education	√					
7	Civic education	√					
8	Pancasila	√					
9	Bahasa indonesia	√				√	√
10	Statistics			√	√	√	
11	English language	√				√	√
12	Entrepreneurship	√	√			√	
13	Community service program	√	√	√	√	√	√
14	Social and culture education	√					√
15	Science of education	√		√	√		√
16	Psychology of education	√		√		√	√
17	Management of education	√		√		√	√
18	Sociology and anthropology education	√		√	√	√	√
19	Review of chemical curriculum			√	√		√
20	Chemistry learning media			√	√	√	
21	Instructional strategies of chemistry				√	√	
22	ICT application for chemistry teaching and learning			√		√	
23	Chemistry learning assessment	√		√	√		
24	Program development of chemistry learning			√	√		
25	High school chemistry		√	√	√	√	
26	Chemistry for vocational high school		√	√	√	√	
27	Micro-teaching	√		√	√	√	√
28	Research methodology for chemistry education			√		√	√
29	Trend of chemistry research and learning			√		√	
30	Insight and analysis of natural science materials			√		√	√
31	English for chemistry classroom instruction	√		√		√	√
32	Basic chemistry			√	√	√	√
33	Physic for chemistry			√	√		
34	Biology for chemistry			√	√		
35	Matematika untuk kimia			√	√		
36	Chemical equilibrium			√	√		√
37	Molecular dynamics			√	√		√
38	Basic of organic chemistry				√		√
39	Reactivity and mechanism of organic reaction			√	√		√
40	Kimia anorganik nonlogam			√	√		√
41	Inorganic metal chemistry			√	√		√
42	Basic of analytical chemistry			√	√		√
43	Chemical separation method			√	√	√	√
44	Biochemistry			√	√		√

No.	Course	LO1	LO2	LO3	LO4	LO5	LO6
45	Nuclear chemistry			√			√
46	Environmental chemistry			√	√	√	
47	Introduction to Quantum Chemistry			√	√		
48	Coordination chemistry and organometallic			√	√		
49	Instrument Analysis Chemistry			√	√		√
50	Analysis on organic compound structures			√	√		√
51	Laboratory management			√		√	√
52	Industrial chemistry			√			√
53	Chemistry research project	√		√	√	√	√
54	Educational internship			√	√		
55	Undergraduate thesis writing	√		√		√	√
56	Chemistry history and perspective			√		√	
57	Chemistry education research review	√		√		√	
58	Chemistry learning workshop			√	√		
59	Materials development on chemistry			√	√	√	
60	Chemistry experiment at school			√	√	√	
61	Products of chemical technology			√	√	√	
62	Entrepreneurship in it-based learning		√	√	√		
63	Academic writing for chemistry education	√				√	√
64	Pharmaceutical chemistry			√	√		
65	Food chemistry			√		√	
66	Chemistry macromolecule			√		√	
67	Natural material chemistry			√		√	√
68	Petroleum chemistry			√		√	
69	Corrosion and electroplating			√		√	
70	B3 waste management			√		√	√
71	Geochemistry			√		√	