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## Major "CHEMICAL ENGINEERING AND ADVANCED MATERIALS" / M.Sc. Program "DISPERSE SYSTEMS IN CHEMICAL TECHNOLOGIES"

Program code

academic year beginning from 2015/2016

№	Course code	Course Title	Type – C, E, O	Semester	ECTS - credits	Number of classes- total				Number of classes per week	Type of Grading* - e, ca, m, cont.
						Total	Lectures	Seminars	Practical classes / practice		
1	2	3	4	5	6	7	8	9	10	11	12

## Core courses

1	C	0	1	9	Formation and stability of disperse systems	C	1	9	270	45		45	3/0/3	E
2	C	0	2	7	Emulsifiers, foam stabilizers and wetting agents	C	1	7	210	45		15	3/0/1	E
3	C	0	3	5	Optical and electrical properties of colloids	C	1	5	150	30		30	2/0/2	E
4	C	0	4	4	Oral and written communication	C	1	4	120	15		30	1/0/2	CA
5	C	0	5	6	Computer modelling and control of chemical processes	C	2	6	180	30		45	2/0/3	E
6	C	0	6	5	Rheology of disperse systems	C	2	5	150	30	15	15	2/1/1	E
7	C	0	7	5	Dispersions in cosmetics and homecare	C	2	5	150	30		15	2/0/1	M
8	C	0	8	5	Dispersions in ceramic technologies	C	2	5	150	30		15	2/0/1	E
9	C	0	9	4	Dispersions in pharmaceutical technologies	C	3	4	120	30		15	2/0/1	E
10	C	1	0	3	Dispersions in food technologies	C	3	3.5	105	30		15	2/0/1	E
11	C	1	1	3	Dispersions in environment protection and cleaning	C	3	3.5	105	30		15	2/0/1	E

Type of grading:  
e-exam, ca-continuous assessment,  
m-mixed examination,  
cont.-continues in the next semester

By decision of the Faculty Council the extracurricular activity of the students is at least 50% of the total

**Elective courses – at least 8 credits**

1	E	0	1	4	Foams, antifoams and detergency	E	2 / 3	4	120	30	15	15	2/1/1	CA
2	E	0	2	4	Colloidal crystals and nanomaterials	E	2 / 3	4	120	30	15	15	2/1/1	CA
3	E	0	3	4	Wetting, dewetting and stability of interfaces	E	2 / 3	4	120	30	30		2/2/0	CA
4	E	0	4	4	Biopolymers	E	2	4	120	30		30	2/0/2	CA
5	E	0	5	4	Physical chemistry of surfaces	E	1 / 3	4	120	45	15		3/1/0	CA
6	E	0	6	4	Statistical chemical thermodynamics	E	2 / 3	4	120	30	30		2/2/0	CA
8	E	0	8	4	Solid-state dispersed systems	E	2 / 3	4	120	30		30	2/0/2	CA
9	E	0	9	4	Bioreactors and biotechnology	E	2 / 3	4	120	30		30	2/0/2	CA
10	E	1	0	4	Green chemistry	E	2 / 3	4	120	30		30	2/0/2	CA
11	E	1	1	4	Special polymers in high technologies	E	2 / 3	4	120	30		30	2/0/2	CA
12	E	1	2	4	Nonequilibrium thermodynamics and stochastic processes	E	2 / 3	4	120	30		30	2/0/2	CA
14	E	1	3	4	Microeconomics and management	E	2 / 3	4	120	30	30		2/2/0	CA
15	E	1	4	4	Philosophy of science	E	2 / 3	4	120	30	30		2/2/0	CA
16	E	1	5	4	Electrolyte solutions and charged surfaces	E	2 / 3	4	120	30	30		2/2/0	CA

**Optional courses**

1	O	0	1	4	English	O	1-3	4	120			60	0/0/4	CA
2	O	0	2	2	Science ethics	O	2-3	2	60	30			2/0/0	CA

Type of grading:  
 e-exam, ca-continuous assessment,  
 m-mixed examination,  
 cont.-continues in the next semester

*By decision of the Faculty Council the extracurricular activity of the students is at least 50% of the total*

**Study internships and course works**

No	code	Title	Type – C, E, O	Semester	ECTS - credits	Weeks	Number classes	Type of course completion - e, ca, m
1	P 0 1 5	Research practice	C	1	5	15	150	CA
2	P 0 2 5	Research practice with course project	C	2	5	15	150	E

**Degree completion**

Form of degree completion	ECTS credits	First state exam/ thesis defence session	Second state exam/ thesis defence session
Thesis defence	15	February-March	June-July

The curriculum has been approved by the Faculty Council, Record of Proceedings № 5/18.11.2014

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*By decision of the Faculty Council the extracurricular activity of the students is at least 50% of the total*

Type of grading:  
e-exam, ca-continuous assessment,  
m-mixed examination,  
cont.-continues in the next semester

Sofia University "St. Kliment Ohridski

**Curriculum Reference Statement**

Major "CHEMICAL ENGINEERING AND ADVANCED MATERIALS" / M. Sc. Program "DISPERSE SYSTEMS IN CHEMICAL TECHNOLOGIES"

Form of study - Full-time, Length of study - 3 semesters (1.5 years)

<b>Course Load, ECTS - credits and course completion per semester</b>												
<b>Вид заетост</b>	<b>I semester</b>			<b>II semester</b>			<b>III semester</b>			<b>Total</b>		
	Course Load - number of classes	ECTS – credits	number of grades	Course Load - number of classes	ECTS – credits	number of grades	Course Load - number of classes	ECTS – credits	number of grades	Course Load - number of classes	ECTS – credits	number of grades
Compulsory courses	<b>255</b>	<b>25</b>	<b>4</b>	<b>225</b>	<b>21</b>	<b>4</b>	<b>135</b>	<b>11</b>	<b>3</b>	<b>615</b>	<b>57</b>	<b>11</b>
Min. of elective courses				<b>60</b>	<b>4</b>	<b>1</b>	<b>60</b>	<b>4</b>	<b>1</b>	<b>120</b>	<b>8</b>	<b>2</b>
Study Internships	<b>150</b>	<b>5</b>	<b>1</b>	<b>150</b>	<b>5</b>	<b>1</b>				<b>300</b>	<b>10</b>	<b>2</b>
<b>Total:</b>	<b>405</b>	<b>30</b>	<b>5</b>	<b>435</b>	<b>30</b>	<b>6</b>	<b>195</b>	<b>15</b>	<b>4</b>	<b>1035</b>	<b>75</b>	<b>15</b>

Form of degree completion	ECTS - credits	number of hours for preparation	First state exam/ thesis defence session	Second state exam/ thesis defence session
Thesis defence	15	450	February-March	June-July

**Professional Qualification: MASTER IN CHEMICAL ENGINEERING AND ADVANCED MATERIALS – DISPERSE SYSTEMS IN CHEMICAL TECHNOLOGIES**

**Record of Proceedings of the Faculty Council № 5/18.11.2014**

**DEAN:**