CH M 0 5 0 1

CHM0501

Major "Chemical Engineering and Contemporary Materials"

for the academic year beginning in 2013

№	Course code	Course Title	Type – C, E, O	Semester	ECTS credits	Number of hours- total				Number of hours per week	Type of grading* - e, ca, m, a
						Total	Lectures	Seminars	Practical classes		
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*
Core courses											
1	CH0161	Mathematics I (Linear Algebra and Analytical Geometry)	**C**	**1**	**6**	**180**	**45**	**30**	**30**	**3/2/0**	e
2	CH0262	Mathematics II (Mathematical analysis)	**C**	**1**	**6**	**180**	**45**	**30**		**3/2/0**	e
3	CH0383	General Physics part I	**C**	**1**	**8**	**240**	**45**	**15**	**45**	**3/1/3**	e
4	CH0474	General Chemistry	**C**	**1**	**7**	**210**	**45**		**45**	**3/0/3**	e
5	CH0552	English language	**C**	**1**	**2**	**60**			**30**	**0/0/2**	m
6	CH0661	Sport	**C**	**1**	**1**	**30**			**30**	**0/0/2**	m
7	CH0755	Mathematics III (Mathematical Methods in Chemistry)	**C**	**2**	**5**	**150**	**30**		**30**	**2/2/0**	e
8	CH0877	General Physics part II	**C**	**2**	**7**	**210**	**30**	**15**	**45**	**2/1/3**	e
9	CH0988	Informatics, Computers and Statistics	**C**	**2**	**7**	**210**	**30**	**15**	**60**	**2/1/4**	e
10	CH1007	Inorganic Chemistry	**C**	**2**	**8**	**240**	**45**		**45**	**3/0/3**	e
11	CH1113	Analytical Chemistry part I	**C**	**2**	**3**	**90**	**30**			**2/0/0**	m
12	CH1228	Analytical Chemistry part II	**C**	**3**	**8**	**240**	**30**		**75**	**2/0/5**	e
13	CH1337	Continuum Mechanics and Rheology	**C**	**3**	**7**	**210**	**45**	**30**	**15**	**3/2/1**	e
14	CH1411	Engineering graphics	**C**	**3**	**1**	**30**			**15**	**0/0/1**	ca
15	CH1545	Structure of Matter	**C**	**3**	**4**	**120**	**45**		**15**	**3/0/1**	e
16	CH1666	Physical Chemistry part I	**C**	**3**	**6**	**180**	**45**		**30**	**3/0/2**	m
17	CH1744	Transport Phenomena part I	**C**	**3**	**4**	**120**	**30**	**15**	**15**	**2/1/1**	m
18	CH1887	Physical Chemistry part II	**C**	**4**	**7**	**210**	**45**		**45**	**3/0/3**	e

Type of grading:
e-exam, ca-current assesment,
m-matriculation,
a-advances to the next semester

The Faculty Council has decided that min. 55% of the total education load is independent study of the students

19	C	1	9	7	Organic Chemistry part I	**C**	**4**	**7**	**210**	**45**		**45**	**3/0/3**	e
20	C	2	0	4	Transport Phenomena part II	**C**	**4**	**4**	**120**	**30**	**15**	**15**	**2/1/1**	e
21	C	2	1	7	Introduction to Material Science	**C**	**4**	**7**	**210**	**45**		**45**	**3/0/3**	e
22	C	2	2	5	Applied Thermodynamics	**C**	**4**	**5**	**150**	**45**		**30**	**3/0/2**	e
23	C	2	3	7	Organic Chemistry part II	**C**	**5**	**7**	**210**	**45**		**45**	**3/0/3**	e
24	C	2	4	7	Instrumental Methods in Chemistry part I	**C**	**5**	**7**	**210**	**60**		**30**	**4/0/2**	e
25	C	2	5	5	Disperse Systems	**C**	**5**	**5**	**150**	**45**		**15**	**3/0/1**	m
26	C	2	6	5	Applied Electrochemistry	**C**	**5**	**5**	**150**	**30**		**30**	**2/0/2**	e
27	C	2	7	6	Chemical Kinetics	**C**	**5**	**6**	**180**	**45**	**15**	**15**	**3/1/1**	e
28	C	2	8	7	Instrumental Methods in Chemistry part II	**C**	**6**	**7**	**210**	**60**		**30**	**4/0/2**	e
29	C	2	9	9	Chemical Technologies	**C**	**6**	**9**	**270**	**75**		**45**	**5/0/3**	e
30	C	3	0	6	Unit Operations of Chemical Technologies	**C**	**6**	**6**	**180**	**45**		**45**	**3/0/3**	e
31	C	3	1	4	Instrumental Methods in Material Science	**C**	**6**	**4**	**120**	**30**		**30**	**2/0/2**	e
32	C	3	2	6	Polymers	**C**	**7**	**6**	**180**	**45**		**30**	**3/0/2**	e

Elective courses – courses with minimum of 30 ECTS (total) must be elected

1					I Elective course 1 gr.	**E**	**7**	**5**	**150**	**30**		**30**	**2/0/2**	e
2					II Elective course 1 gr.	**E**	**7**	**5**	**150**	**30**		**30**	**2/0/2**	e
3					III Elective course 1 gr.	**E**	**7**	**5**	**150**	**30**		**30**	**2/0/2**	e
4					IV Elective course 1 gr.	**E**	**8**	**5**	**150**	**30**		**30**	**2/0/2**	e
5					V Elective course 1 gr.	**E**	**8**	**5**	**150**	**30**		**30**	**2/0/2**	e
6					VI Elective course 1 gr.	**E**	**8**	**5**	**150**	**30**		**30**	**2/0/2**	e

Elective courses – courses with minimum of 10 ECTS (total) must be elected

1					I Elective course 2 gr.	**E**	**7**	**5**	**150**	**30**		**30**	**2/0/2**	m
2					II Elective course 2 gr.	**E**	**8**	**5**	**150**	**30**		**30**	**2/0/2**	m

Optional courses

1	O	0	1	3	Introduction in chemistry	O	1	3	90			30	2/0/2	m
2	O	0	2	3	Introduction in mathematics	O	1	3	90			30	2/0/2	m

Type of grading:
e-exam, ca-current assesment,
m-matriculation,
a-advances to the next semester

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3	O	0	3	3	English language	O	2-8	3	90			30	2/0/2	m
2	O	0	4	1	Sport	O	2-8	3	90			30	2/0/2	m
3	O	0	5	3	Communication skils	O	5-8	3	90			30	2/0/2	m
4	O	0	6	2	Scientific ethics	O	5-8	3	90			30	2/0/2	m

Study Internships and course work

№	code				Internship	Type – C, E, O	Semester	ECTS credits	Weeks	Hours	Type of grading* - e, ca, m
1	**C**	**0**	**1**	**4**	Practical training - scientific research	3	**7**	**4**	**15**	**120**	m

Training Internships

№	code				Internship	Type – C, E, O	Semester	ECTS credits	Weeks	Hours	Type of grading* - e, ca, m
2	**C**	**0**	**2**	**4**	Practical training - industrial chemistry	3	**6**	**4**	**4**	**60**	m

Degree completion

Form of degree completion	ECTS credits	First session for thesis defence	Second session for thesis defence
Diploma thesis or state examination in chemistry	10	July	September

The curriculum has been approved by the Faculty Council, Record of Proceedings № 15/11.06.2013 г.

DEAN:.....

The Faculty Council has decided that min. 55% of the total education load is independent study of the students

Type of grading:
e-exam, ca-current assesment,
m-matriculation,
a-advances to the next semester

Sofia University "St. Kliment Ohridski"

Curriculum Reference Statement

Major "Chemical Engineering and Contemporary Materials"

Form of study: full-time; Length of study: eight semesters

In-class course load, ECTS credits and courses completed per semester

Type of courses	I семестър			II			III			IV			V			VI			VII			VIII			Total		
	Course Load - number of hours	ECTS credits	Number of grades	Course Load - number of hours	ECTS credits	Number of grades	Course Load - number of hours	ECTS credits	Number of grades	Course Load - number of hours	ECTS credits	Number of grades	Course Load - number of hours	ECTS credits	Number of grades	Course Load - number of hours	ECTS credits	Number of grades	Course Load - number of hours	ECTS credits	Number of grades	Course Load - number of hours	ECTS credits	Number of grades	Course Load - number of hours	ECTS credits	Number of grades
Compulsory courses	**435**	**30**	**6**	**375**	**30**	**5**	**405**	**30**	**6**	**405**	**30**	**5**	**375**	**30**	**5**	**360**	**26**	**4**	**75**	**6**	**1**				**2430**		**32**
Min. of elective courses																			**240**	**20**	**4**	**240**	**20**	**4**	**480**		**8**
Study internships																**60**	**4**	**1**	**120**	**4**	**1**				**180**		**2**
Total:	**435**	**30**	**6**	**375**	**30**	**5**	**405**	**30**	**6**	**405**	**30**	**5**	**375**	**30**	**5**	**420**	**30**	**5**	**435**	**30**	**6**	**240**	**20**	**4**	**3090**	**230**	**42**

Degree completion	ECTS credits	Number of hours for preparation	First state exam/ thesis defence session	Second state exam/ thesis defence session	Втора държавна сесия
Diploma thesis or state examination in chemistry		10	300	July	September

Professional Qualification: Bachelor in Chemical Engineering and Contemporary Materials

Record of Proceedings of the Faculty Council № 15 / 11.06.2013 г. **Dean:**

CH M 0 5 0 1
CHM0501

Elective courses (1 gr) for Major "Chemical Engineering and Contemporary Materials"

for the academic year beginning in 2013

Elective courses – courses with minimum of 30 ECTS (total) must be elected

№	Course code				Course Title	Type – C, E, O	Semester	ECTS credits	Number of hours- total				Number of hours per week	Type of grading* - e, ca, m, a
									Total	Lectures	Seminars	Practical classes		
1	*2*				*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*
1	E	0	1	5	Computer methods for modeling of chemical processes	E	7	5	150	30		30	2/0/2	e
2	E	0	2	5	Separation Processes with Disperse Systems	E	7	5	150	30		30	2/0/2	e
3	E	0	3	5	Metals and alloys	E	7	5	150	30		30	2/0/2	e
4	E	0	4	5	Nanostructured Materials	E	7	5	150	30		30	2/0/2	e
5	E	0	5	5	Polymer Materials	E	8	5	150	30		30	2/0/2	e
6	E	0	6	5	Chemical process dynamics and control	E	8	5	150	30		30	2/0/2	e
7	E	0	7	5	Sustainable development and ecology	E	8	5	150	30		30	2/0/2	e
8	E	0	8	5	Ceramic materials	E	8	5	150	30		30	2/0/2	e
9	E	0	9	5	Biomaterials	E	8	5	150	30		30	2/0/2	e
10	E	1	0	5	Molecular Modeling of Functional Materials	E	8	5	150	30		30	2/0/2	e

Record of Proceedings of the Faculty Council № 15/11.06.2013 г.

DEAN:.....