Benha University
Faculty of Science
Department of Chemistry

Analytical Chemistry Diplom Program Specification

Analytical Chemistry Diplom Program Specification

A. Basic Information

Program Title:	**Analytical Chemistry Diplom** Program Specification
Program Type:	**Graduate**
Department:	**Chemistry** Departement
Coordinator:	**Dr. Mostafa Y. Nassar**
Assistant Co-ordinator:	**Prof. Dr. Wagdy I. El-Dougdoug**

The most recent date of the program specification approval: 9/12/2015 (Faculty council; meeting number, 390)

B. Professional Information

1. Program Aims

Analytical Chemistry Diplom Program is an academic program produced by Chemistry Department. It is goal-oriented, focused, research experience, community service, and developing some of the personal characteristics of the postgraduated students. The following are the aimed graduate attributes:

a. Gain the required fundamental and advanced knowledge to solve the analytical chemistry problems that they might face.
b. Understanding their roles in community development and keeping the environment clean and safe.
c. Recognize deeper knowledge theoretically, practically, and instrumentally to develop themselves scientifically in analytical chemistry.
d. Develop knowledge and skills necessary for independent learning and participate effectively in research activities in analytical chemistry.
e. Participate effectively as a member or leader in teamwork, able to make right scientific decision and behave in mannar reflecting integrity and credibility.
f. Exploit the modern technology in searching and serving the professional practice.

2. Intended Learning Outcomes (ILO's)

a. Knowledge and Understanding

The postgraduates of the **Analytical Chemistry Diplom Program** should be able to demonstrate the knowledge and understanding of:

a1 State basics and theories of thermal, radiochemical, and surface analysis.
a2 Describe basics and theories of electrochemical analysis.
a3 Define the ethical, basic, and quality principles of professional practice in analytical chemistry to preserve the environment.
a4 Describe new techniques and instruments in analytical chemistry.
a5 Define the basic and quality principles of Printing inks and legitimacy chemistry

b. Intellectual Skills
The postgraduates of the **Analytical Chemistry Diplom Program** should be able to:

b1 Report an analytical chemistry problem and the risks during the professional practice for the purpose of solving the problem.
b2 Collect and organized data using different instruments.
b3 Interpret the organized and collected data using the gained analytical chemistry knowledge.
b4 Report scientific decision on the problems and their solutions in scientifically written reports.

c. Professional and Practical Skills

On successful completion of the Postgraduates of the **Analytical Chemistry Diplom Program** should be able to:
c1 Apply basic and professional skills in collecting information on the problem and its solution.
c2 Investigate scientifically the collected data based on the gained knowledge.
c3 Prepare scientific reports or scientific research papers based on the collected data.

d. General Skills

The graduates of the Postgraduate of the **Analytical Chemistry Diplom Program** should be able to:

d1 Use computers and internet for communication, data handling and word processing.

d2 Collaborate effectively with teamwork members to maintain independent and critical thinking, effective time-management and positive communication and cooperation with other members of the teamwork.
d3 Use different sources for information and knowledge.
d4 Manage tasks, time, and resources, effectively.
d5 Search for information and engage in life-long self learning discipline.
d6 Lead scientific meeting and mange time.

3- Academic standards of the program

The program outcomes are derived from the **Academic Reference Standards (ARS)** for postgraduate program published by the National Authority of Quality Assurance and Accreditation of Education in (2009).

4- Reference indices (Benchmarks)

The program outcomes are derived from the ***Academic Reference Standards (ARS)*** for postgraduate program published by the National Authority of Quality Assurance and Accreditation of Education in (2009).

5- Curricullum structure and contents of program

a- Program duration: 1 year.

b- Program structure:

Program structure	Credit hours
Compulsory courses	**18**
Optional courses	**6**
Total	**24**

d- Program Courses:

Code No.	Course Title	No. of hours		
		Lectures	Practical	Credit hours

The graduate studies total (24 hours)				
Compulsory courses (18 hours)				
501 Ch	Methods of electrochemical analysis	2	-	2
502 Ch	Thermal, radiochemical, and surface analysis	2	-	2
503 Ch	Spectral analysis methods	2	-	2
504 Ch	Analytical and environmental chemistry	2	3	3
505 Ch	Technology of separation	3	-	3
506 Ch	Selected courses in various analyses	2	-	2
507 Ch	Practical analytical chemistry	-	4	2
508 Ch	Chemistry of Measurments	2	-	2
Optional courses (6 hours)				
530 Ch	Electrochemical corrosion and energy storage	2	-	2
531 Ch	Mass transfer in electrochemistry	2	-	2
532 Ch	Printing inks	2	-	2
533 Ch	Legitimacy chemistry	2	-	2
534 Ch	Instrumental control and contact technology	2	-	2

Courses specification:

See course specification forms

7- Program admission requirements

- The students registered in this program must have B.Sc. Students whom have pass grade in B.Sc. should take diplom in chemistry with very good grade.

8- Regulations for progression and program completion:

- According to the law of Faculty of Benha Science, the regulations for progression and program completion, the graduate must pass:
  * 24 cr (credit hours) compulsory and optional hours.
  * Student is considered absent, if he/she misses the final written exam with no accepted excuse.

9- Methods and rules of evaluation of students in rolled in the program:

- **Optional courses evaluation**:

	Method of Assessment		Percent	Total
1-	Semester work	Semester work	---	---
2-	Mid Term Exam	Mid Term Exam	---	---
3-	Practical courses	Final Oral Exam	40%	100%
		Final Practical Exam	60%	
4-	Theoretical courses	Final Oral Exam	20%	100%
		Final Practical Exam	80%	

10- Methods of program evaluation:

Samples	Tool	Evaluators
1- Senior Students	Questionnaire	100%
3- External Evaluators	Reports	

The person responsible for the program: Prof. Dr. Alaa S. Amin

Date:

Benha University
Faculty of Science
Department of Chemistry

Petroleum and petrochemical Diplom Program Specification

Petroleum and petrochemical Diplom Program Specification

A. Basic Information

Program Title:	**Petroleum and petrochemical Diplom** Program Specification
Program Type:	**Graduate**
Department:	**Chemistry** Departement
Coordinator:	**Dr. Mostafa Y. Nassar**
Assistant Co-ordinator:	**Prof. Dr. Wagdy I. El-Dougdoug**

The most recent date of the program specification approval: 9/12/2015 (Faculty council; meeting number, 390)

B. Professional Information

1. Program Aims

Petroleum and petrochemical Diplom Program is an academic program produced by Chemistry Department. It is goal-oriented, focused, research experience, community service, and developing some of the personal characteristics of the postgraduated students. The following are the aimed graduate attributes:

a. Gain the required fundamental and advanced knowledge to solve the petroleum and petrochemical problems that they might face.
b. Understanding their roles in community development and keeping the environment clean and safe.
c. Recognize deeper knowledge theoretically, practically, and instrumentally to develop themselves scientifically in petroleum and petrochemicals.
d. Develop knowledge and skills necessary for independent learning and participate effectively in research activities in petroleum and petrochemicals.
e. Participate effectively as a member or leader in teamwork, able to make right scientific decision and behave in mannar reflecting integrity and credibility.
f. Exploit the modern technology in searching and serving the professional practice.

2. Intended Learning Outcomes (ILO's)

a. Knowledge and Understanding

The postgraduates of the **Petroleum and petrochemical Diplom Program** should be able to demonstrate the knowledge and understanding of:

a1. State basics and theories of petroleum and petrochemicals.
a2. Define the ethical, basic, and quality principles of professional practice in petroleum and petrochemicals to preserve the environment.
a3. Describe new techniques and instruments in petroleum and petrochemicals and some applied organic chemistry.

b. Intellectual Skills

The postgraduates of the **Petroleum and petrochemical Diplom Program** should be able to:

b1. Report an organic chemistry problem and the risks during the professional practice for the purpose of solving the problem.
b2. Collect and organized data using different instruments.
b3. Interpret the organized and collected data using the gained applied organic knowledge.
b4. Report scientific decision on the problems and their solutions in scientifically written reports.

c. Professional and Practical Skills

On successful completion of the Postgraduates of the **Petroleum and petrochemical Diplom Program** should be able to:

c1. Apply basic and professional skills in collecting information on the problem and its solution.
c2. Investigate scientifically the collected data based on the gained knowledge.
c3. Prepare scientific reports or scientific research papers based on the collected data.

d. General Skills

The graduates of the Postgraduate of the **Petroleum and petrochemical Diplom Program** should be able to:

d1. Use computers and internet for communication, data handling and word processing.
d2. Collaborate effectively with teamwork members to maintain independent and critical thinking, effective time-management and positive communication and cooperation with other members of

the teamwork.

d3. Use different sources for information and knowledge.
d4. Manage tasks, time, and resources, effectively.
d5. Search for information and engage in life-long self learning discipline.
d6. Lead scientific meeting and mange time.

3- Academic standards of the program

The program outcomes are derived from the **Academic Reference Standards (ARS)** for postgraduate program published by the National Authority of Quality Assurance and Accreditation of Education in (2009).

4- Reference indices (Benchmarks)

The program outcomes are derived from the ***Academic Reference Standards (ARS)*** for postgraduate program published by the National Authority of Quality Assurance and Accreditation of Education in (2009).

5- Curricullum structure and contents of program

a- Program duration: 1 year.

b- Program structure:

Program structure	Credit hours
Compulsory courses	**18**
Optional courses	**6**
Total	**24**

d- Program Courses:

Code No.	Course Title	No. of hours		
		Lectures	Practical	Credit hours
The graduate studies total (24 hours)				
Compulsory courses (18 hours)				
505 Ch	Technology of separation	3	-	3
513 Ch	Applied organic chemistry	2	2	3
524 Ch	Petrochemical indutries	2	-	2
525 Ch	Detergents	1	-	1
526 Ch	Paints	2	-	2
527 Ch	Refining of petroleum and petrochemicals	2	3	3
528 Ch	Industrial applications of plymers	1	3	2
529 Ch	Enviromental pollution and water treatment in petroleum industries	1	3	2
Optional courses (6 hours)				
530 Ch	Electrochemical corrosion and energy storage	2	-	2
531 Ch	Mass transfer in electrochemistry	2	-	2
532 Ch	Printing inks	2	-	2
533 Ch	Legitimacy chemistry	2	-	2
534 Ch	Instrumental control and contact technology	2	-	2

Courses specification:

See course specification forms

7- Program admission requirements

- The students registered in this program must have B.Sc. Students whom have pass grade in B.Sc. should take diplom in chemistry with very good grade.

8- Regulations for progression and program completion:

- According to the law of Faculty of Benha Science, the regulations for progression and program completion, the graduate must pass:
  * 24 cr (credit hours) compulsory and optional hours.
  * Student is considered absent, if he/she misses the final written exam with no accepted excuse.

9- Methods and rules of evaluation of students in rolled in the program:

- **Optional courses evaluation**:

	Method of Assessment		Percent	Total
1-	Semester work	Semester work	---	---
2-	Mid Term Exam	Mid Term Exam	---	---
3-	Practical courses	Final Oral Exam	40%	100%
		Final Practical Exam	60%	
4-	Theoretical courses	Final Oral Exam	20%	100%
		Final Practical Exam	80%	

10- Methods of program evaluation:

Samples	Tool	Evaluators
1- Senior Students	Questionnaire	100%
3- External Evaluators	Reports	

The person responsible for the program: Prof. Dr. Alaa S. Amin

Date: