وزارة التعليم العالي والبحث العلمي
جـــهاز الإشـــراف والتقـــويم العلـمي
دائرة ضمان الجودة والاعتماد الأكاديمي

استمارة وصف البرنامج الأكاديمي للكليات والمعاهد للعام الدراسي

الجامعة : جامعة بغداد
الكلية /المعهد : كلية الهندسة
القسم العلمي : قسم هندسة النفط
تاريخ ملء الملف : شباط 2021

التوقيع :
اسم رئيس القسم : د. عاصم صبيح
التاريخ : ٢٠٢١/٩/٥

التوقيع :
اسم المعاون العلمي : أ.د. فياض جاسم كاظم
التاريخ : ٢٠٢١/٩/٥

دقق الملف من قبل
شعبة ضمان الجودة والأداء الجامعي
اسم مدير شعبة ضمان الجودة والأداء الجامعي:
التاريخ / /
التوقيع

مصادقة السيد العميد
د. عبد الكريم عبد الحميد

وصف البرنامج الأكاديمي

يوفر وصف البرنامج الأكاديمي هذا ايجازاً مقتضياً لأهم خصائص البرنامج ومخرجات التعلم المتوقعة من الطالب تحقيقها مبرهناً عما إذا كان قد حقق الاستفادة القصوى من الفرص المتاحة . ويصاحبه وصف لكل مقرر ضمن البرنامج

Republic of
Iraq
Ministry of Higher Education & Scientific
Research Supervision and Scientific
Evaluation Directorate Quality Assurance and
Academic Accreditation
International Accreditation

Dept.

Academic Program Specification Form

For The

Academic

Universitiy:

College :

Number Of Departments In The College :

Date Of Form Completion :

Dean ’s Name

Date : / /

Signature

Dean ’s Assistant For

Scientific Affairs

Date : / /

Signature

The College Quality

Assurance

And University

Performance

Ma

nager Date : / / Signature

Quality Assurance And University Performance Manager

Date : / /

Signature

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

This Programme Specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It is supported by a specification for each course that contributes to the programme.

1. Teaching Institution	College of Engineering/University of Baghdad
2. University Department/Centre	Department of Petroleum
3. Programme Title	Drilling Engineering I
4. Title of Final Award	BS.C
5. Modes of Attendance offered	Direct Attendance
6. Accreditation	
7. Other external influences	
8. Date of production/revision of this specification	2021-2020
9. Aims of the Programme	
Transferred the sciences of well drilling engineering that are related to drilling mud technology, rig hydraulic ,drilling mud problems , drilling methods, muds calculation , string design, casing design, Oil well cementing. Cement calculations	

10. Learning Outcomes, Teaching, Learning and Assessment Methods
A. Cognitive goals A
B. The skills goals special to the programme . B1. B 2. B 3.
Teaching and Learning Methods
1-Direct teaching by power point presentation 2- on line classes 3-
Assessment methods
Quizzes, homeworks, final report, class contribution
C. Affective and value goals C 1. C 2. C 3. C 4.
Teaching and Learning Methods
Assessment methods

D. General and Transferable Skills (other skills relevant to employability and personal development)

D
1.
D
2.
D
3.
D
4.

Teaching and Learning Methods

Assessment Methods

11. Programme Structure				12. Awards and Credits
Level/Year	Course or Module Code	Course or Module Title	Credit rating	
Third		Drilling Engineering1		Bachelor Degree Requires (x) credits

13. Personal Development Planning

14. Admission criteria .

1-secondary school graduates
2-first graduates of petroleum institute

15. Key sources of information about the programme

Curriculum Skills Map																		
please tick in the relevant boxes where individual Programme Learning Outcomes are being assessed																		
				Programme Learning Outcomes														
Year / Level	Course Code	Course Title	Core (C) Title or Option (O)	Knowledge and understanding				Subject-specific skills				Thinking Skills				General and Transferable Skills (o Other skills relevant t employability and personal developmen		
				A1	**A2**	**A3**	**A4**	**B1**	**B2**	**B3**	**B4**	**C1**	**C2**	**C3**	**C4**	**D1**	**D2**	**D3**
Third		Drilling Engineering 1		√				√				√				√		

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	College of Engineering/University of Baghdad
2. University Department/Centre	Department of Petroleum
3. Course title/code	Drilling Engineering I
4. Modes of Attendance offered	Direct Attendance
5. Semester/Year	year
6. Number of hours tuition (total)	120 hr
7. Date of production/revision of this specification	2021
8. Aims of the Course	
Transferred the sciences of well drilling engineering that are related to drilling mud technology, rig hydraulic ,drilling mud problems , drilling methods, muds calculation , string design, casing design, Oil well cementing. Cement calculations	

9· Learning Outcomes, Teaching ,Learning and Assessment Method

A- Cognitive goals

. A1.

A

2.

A

3.

A

4.

A

5.

A6

.

B. The skills goals special to the course. B1.

B2.

B3.

Teaching and Learning Methods

1-Direct teaching by power point presentation
2- on line classes

Assessment methods

Quizzes, homeworks, final report, class contribution

C. Affective and value goals

C

1.

C

2.

C

3.

C

4.

Teaching and Learning Methods

Assessment methods

D. General and rehabilitative transferred skills(other skills relevant to employability and personal development)

D1.

D2.

D3.

D4.

10. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
6	24	Drilling methods and types of mud	Rotary drilling and its equipment, density calculations and additions	Direct, show and Discussion	Quiz, Discussion
6	24	drilling problems and bit types	Types of Bits, loss of drilling fluid, stuck of pipes Type of bits	Direct, show and Discussion	Quiz, Discussion
4	16	Calculations of hydraulic pressure loss	circulation pressure, pressure drop during the drilling fluid cycle	Direct, show and Discussion	Quiz, Discussion
3	12	Design of the drill string and its equipment	Design of the drill pipe and drill Collar and its equipment	Direct, show and Discussion	Quiz, Discussion
3	12	Casing design and bit selection	selection of bit, types of casing Design factors	Direct, show and Discussion	Quiz, Discussion
4	16	Cementing operations and calculations for cementing operations	Types of cement Methods of cementing	Direct, show and Discussion	Quiz, Discussion
4	16	Hydraulic		Direct, show	Quiz, Discussion

		of cementing job	Hydraulic calculation Pressure loss calculation	and Discussion	

11. Infrastructure	
1. Books Required reading:	Text book "Drilling Engineering 1"
2. Main references (sources)	1-Rig hydraulic 2-Applied drilling Engineering 3- drilling mud technology
A- Recommended books and references (scientific journals, reports…).	
B-Electronic references, Internet sites…	Drilling Manuals www.spe.org

12. The development of the curriculum plan

Presenting field lectures by experts,

Republic of Iraq
Ministry of Higher Education & Scientific Research
Supervision and Scientific Evaluation Directorate
Quality Assurance and Academic Accreditation
International Accreditation Dept.

Academic Program Specification Form For The Academic

Universitiy: Baghdad
College: engineering
Number Of Departments In The College : petroleum
Date Of Form Completion :16-2-2021

Dean's Name

Date : / /

Signature

Dean's Assistant For Scientific Affairs

Date : / /
Signature

The College Quality Assurance And University Performance Manager

Date : / /
Signature

Quality Assurance And University Performance Manager
Date : / /
Signature

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

This Programme Specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It is supported by a specification for each course that contributes to the programme.

1. Teaching Institution	Col.of. engineering
2. University Department/Centre	petroleum
3. Programme Title	Geometric and Descriptive Drawing
4. Title of Final Award	Master of Petroleum Engineering
5. Modes of Attendance offered	
6. Accreditation	Method Book
7. Other external influences	
8. Date of production/revision of this specification	16-2-2021

9. Aims of the Programme
Teaching students the importance of drawing and the importance of having an imaginative and engineering view, how to draw shapes with high accuracy and geometric dimensions, and how to

By using engineering drawing tools

10. Learning Outcomes, Teaching, Learning and Assessment Methods
Help the pupils to develop reasoning abilities in all areas of thinking. Help pupils develop ownership of visualization. Helps pupils perceive the three spatial
B. The skills goals special to the programme . It helps pupils to acquire appropriate information about geometric shapes in plane and space by studying real models and making models for them
Teaching and Learning Methods
Assessment methods
C. Affective and value goals C1. C2. C3. C4.
Teaching and Learning Methods
Assessment methods

D. General and Transferable Skills (other skills relevant to employability and personal development)
D1.
D2.
D3.
D4.

Teaching and Learning Methods

Assessment Methods

11. Programme Structure				12. Awards and Credits
Level/Year	Course or Module Code	Course or Module Title	Credit rating	
				Bachelor Degree Requires (x) credits

13. Personal Development Planning
14. Admission criteria .
15. Key sources of information about the programme

Curriculum Skills Map																		
please tick in the relevant boxes where individual Programme Learning Outcomes are being assessed																		
				Programme Learning Outcomes														
Year / Level	Course Code	Course Title	Core (C) Title or Option (O**)**	Knowledge and understanding				Subject-specific skills				Thinking Skills				General and Transferable Skills (or) Other skills relevant to employability and personal development			
				A1	**A2**	**A3**	**A4**	**B1**	**B2**	**B3**	**B4**	**C1**	**C2**	**C3**	**C4**	**D1**	**D2**	**D3**	**D4**

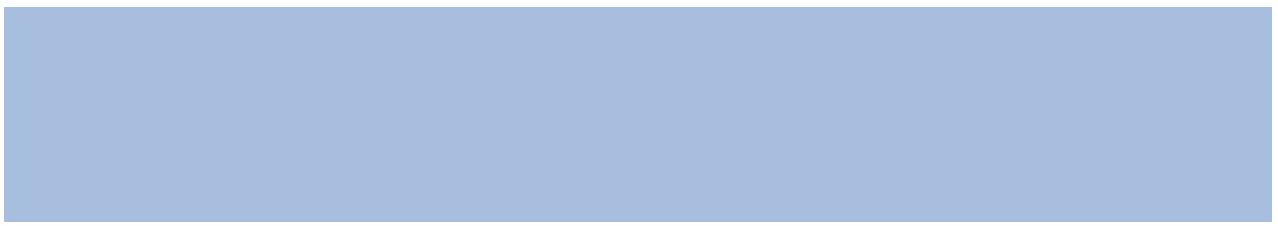
TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

9· Learning Outcomes, Teaching ,Learning and Assessment Methode



D. General and rehabilitative transferred skills(other skills relevant to employability and personal development)

D1.
D2.
D3.
D4.

10. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	10		Book method	eletronic	exam

11. Infrastructure	
1. Books Required reading:	Method book
2. Main references (sources)	Method book
A- Recommended books and references (scientific journals, reports…).	Autocade
B-Electronic references, Internet sites…	Method book

12. The development of the curriculum plan

Republic of Iraq
Ministry of Higher Education & Scientific Research
Supervision and Scientific Evaluation Directorate
Quality Assurance and Academic Accreditation
International Accreditation Dept.

Academic Program Specification Form For The Academic

Universitiy: Baghdad
College :Engineering
Number Of Departments In The College :Petroleum
Date Of Form Completion :2020/2021

Dean's Name

Date : / /

Signature

Dean's Assistant For Scientific Affairs

Date : / /
Signature

The College Quality Assurance And University Performance Manager

Date : / /
Signature

Quality Assurance And University Performance Manager
Date : / /
Signature

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

This Programme Specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It is supported by a specification for each course that contributes to the programme.

1. Teaching Institution	University of Baghdad/College of Engineering
2. University Department/Centre	Petroleum
3. Programme Title	PE-403- Optimization
4. Title of Final Award	Petroleum Eng. software's
5. Modes of Attendance offered	Semester System; The mode is a “Day Program”. The students are full time on Campus. They attend full day program in
6. Accreditation	
7. Other external influences	
8. Date of production/revision of this specification	2020/2021
9. Aims of the Programme	
The Students will get the principles knowledge of essential subjects in optimization and some details for the application to deal with wells proble ppproblems problems.	
1 (a) An ability to apply knowledge of mathematics, science, and engineering	

2 (b) An ability to design and conduct experiments, as well as to analyze and interpret data.
3 (c) An ability to formulate a linear program and how to solve it graphically or using system method 4 (d) Ability to solve different transportation problems with class applications.
5 (e) An ability to identify, formulate, and solve non linear models. 6 (g) An ability to communicate effectively. 7 (h) the broad education necessary to understand the impact of engineering solution in a global economic , environmental and societal context. 8 (j) A knowledge of theories and experiment issues. 9 (k) An ability to use the techniques, skills, and modern engineering tools necessary f engineering practice.

10. Learning Outcomes, Teaching, Learning and Assessment Methods

1. **Formulation of linear programs**
2. **Solve different models**
3. **Graphical solutions**
4. **Simplex solutions**
5. **Duality in linear models**
6. **Transportation methods**
7. **Solve different transportation methods with different applications**

Give the term extended time and request for submit Reports at end of the term; this help the students to get good knowledge for well designs.

Show case studies of Iraqi wells and the impact of wrong selection on HC production.

Using different methods of coning calculation and show the difference between them for the best field's selection.

Assessment methods

Daily quizzes and weekly reports.

-أ **Formulation of linear programs**

10. **Solve different models**
11. **Graphical solutions**
12. **Simplex solutions**

Give the term extended time and request for submit Reports at end of the term; this

D. General and Transferable Skills (other skills relevant to employability and personal development)

1. D1. **Formulation of linear programs**
2. **Solve different models**
3. **Graphical solutions**
4. **Simplex solutions**
5. **Duality in linear models**
6. **Transportation methods**

Teaching and Learning Methods

Assessment Methods

11. Programme Structure				12. Awards and Credits
Level/Year	Course or Module Code	Course or Module Title	Credit rating	
Fourth /2018/2019	PE-403	Optimization		Bachelor Degree Requires (x) credits

13. Personal Development Planning
14. Admission criteria .
15. Key sources of information about the programme

Curriculum Skills Map																			
please tick in the relevant boxes where individual Programme Learning Outcomes are being assessed																			
				Programme Learning Outcomes															
Year / Level	Course Code	Course Title	Core (C) Title or Option (O**)**	Knowledge and understanding				Subject-specific skills				Thinking Skills				General and Transferable Skills (or) Other skills relevant to employability and personal development			
				A1	**A2**	**A3**	**A4**	**B1**	**B2**	**B3**	**B4**	**C1**	**C2**	**C3**	**C4**	**D1**	**D2**	**D3**	**D4**

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	
2. University Department/Centre	
3. Course title/code	
4. Modes of Attendance offered	
5. Semester/Year	
6. Number of hours tuition (total)	
7. Date of production/revision of this specification	
8. Aims of the Course	

9· Learning Outcomes, Teaching ,Learning and Assessment Methode

A- Cognitive goals .
A1.
A2.
A3.
A4.
A5.
A6 .

B. The skills goals special to the course.
B1.
B2.
B3.

Teaching and Learning Methods

Assessment methods

C. Affective and value goals
C1.
C2.
C3.
C4.

Teaching and Learning Methods

Assessment methods

D. General and rehabilitative transferred skills(other skills relevant to employability and personal development)

D1. D2. D3.
D4.

10. Course Structure

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
ONEand TWO			**Formulation of linear programs**	**Enriched discussion & posters**	
THREE and FOURTH			**Different applications**	**Discussion and several home works**	
SIX and SEVENTH			**Graphical solutions and simplex solution**	**Report and Quizzes**	
EIGTH			**Duality in linear programs**	**Discussion and several home works**	
TEN and ELEVEN			**Different transportation methods and how to find initial solution**	**Quizzes**	

TWELEVE			**Assignment problems with different applications**	**Film**	
THIRTEEN and FOURTEEN and FIFTEEN			**Applications and non-linear programs with engineering applications applica**	**Practical lesson and demo SW**	

11. Infrastructure	
1. Books Required reading:	**1. Text book; some related References;** **2. Reservoir Eng. Handbook' Tarik Ahmed** **3. Advance Reservoir Eng.' Tarik Ahmed** **4. Training Software – Evaluation** **Films and posters**
2. Main references (sources)	**1. Text book; some related References;** **2. Reservoir Eng. Handbook' Tarik Ahmed** **3. Advance Reservoir Eng.' Tarik Ahmed** **4. Training Software – Evaluation** **Films and posters**
A- Recommended books and references (scientific journals, reports…).	

B-Electronic references, Internet sites…	

12. The development of the curriculum plan

Republic ofIraq
MinistryofHigher Education&ScientificResearch
Supervision and Scientific Evaluation Directorate
QualityAssurance and Academic Accreditation
International AccreditationDept.

Academic Program Specification Form For The Academic

University: Baghdad
College: Engineering
Number Of Departments In The College: petroleum department
Date Of Form Completion :

Dean' sName

Date: / /

Signature

Dean' sAssistantFor ScientificA ffairs

Date: / /
Signature

TheCollegeQualityAssurance AndUniversityPerformance Manager

Date: / /
Signature

QualityAssuranceAndUniversityPerformanceManager
Date: / /
Signature

TEMPLATEFORPROGRAMMESPECIFICATION

HIGHEREDUCATIONPERFORMANCEREVIEW:PROGRAMMEREVIEW

PROGRAMMESPECIFICATION

The Course Specification provides a summary of the main subjects of the course and the typical student might reasonably be expected to learn the main subjects in petroleum industry. Moreover, the students knew how to think and use the modern solutions to solve the industrial problems in oil industry

1.Teaching Institution	College of Engineering-University of Baghdad
2.UniversityDepartment/Centre	Petroleum Engineering Department
3.ProgrammeTitle	Production Engineering PE-404
4.Title of FinalAward	Production Engineering
5.Modes of Attendance offered	Annual System; The mode is a “Day Program”. The students are full time on Campus. They attend full day program in Face-to-face mode. The academic year is Composed of 30-week regular subjects. Each graduating student has to successfully complete 150 hours.
6.Accreditation	Petroleum engineering
7.Other external influences	
8.Date of production/revision of This specification	10-2-2021
9.Aimsofthe Programme	
The Students will get the principles knowledge of essential subjects in oil production Engineering and some details for the designs and application of well test analysis; in addition and how to deal with field operation; as following details	
(a) Describe terminology and commonly-applied methods for quantifying well performance.	

(b) Describe appropriate well stimulation technologies and/or artificial lift based upon well construction, fluid properties and inflow characteristics.
(c) Ability to work on multi-disciplinary teams.
(d) An ability to identify, formulate, and solve engineering problems
(e) Be able to estimate production performance for oil, gas and two phase flow wells including reservoir inflow and wellbore flow

10.Learning Outcomes, Teaching, Learning and Assessment Methods

A1- Describe terminology and commonly-applied methods for quantifying well performance.

A2- Calculate expected fluid pressure losses through components of a basic petroleum production system.

A3- Apply Well Test Analysis using Conventional Plots.

A4- Be able to estimate production performance for oil, gas and two phase flow wells including reservoir inflow and wellbore flow.

A5- Describe appropriate well stimulation technologies and/or artificial lift based upon well construction, fluid properties and inflow characteristics.

A6- Be able to design and optimize hydraulic fracture treatment.

A7- Be able to select correct stimulation methods for improving production performance (hydraulic fracturing or acid stimulation)

B. The skills goals special to the programme .

B1- Be able to evaluate near wellbore problems in oil and gas well production, identify the problems cause by formation damage and well completion and estimate their effect on production.

B2- An ability to design and conduct experiments, as well as to analyze and interpret data.

B3- Ability to function on multi-disciplinary teams.

B4- An ability to identify, formulate, and solve engineering problems.

Teaching and Learning Methods

Give the term extended time and request for submit Reports at end of the term; this help the students to get good knowledge for well designs. Show case studies of Iraqi wells and the impact of wrong selection on HC production, Add the basic calculation of multiphase flow to enhance the complete knowledge of HC flowing in pipes, Using different methods of inflow performance relationships and show the difference between them for the best fields selection.

Assessment methods
Enriched discussion and several home works, Report and Quizzes, Practical lesson and posters & long discussions and demo Software.
C. Affective and value goals C1. The broad education necessary to understand the impact of engineering solution in a global economic, environmental and societal context. .C2. An ability to apply knowledge of mathematics, science, and engineering C3. C4.
Teaching and Learning Methods
Assessment methods

D.GeneralandTransferable Skills(otherskillsrelevanttoemployabilityand personaldevelopment)

D1 An understanding of professional and ethical responsibility.

D2. An ability to communicate effectively

D3. A knowledge of contemporary issues

D4.

TeachingandLearningMethods

AssessmentMethods

11.Programme Structure				12.Awards and Credits
Level/Year	Course or Module Code	Course or Module Title	Credit rating	
4TH		Inflow Performance Relationship		Bachelor Degree Requires(x)credits
		Vertical lift performance		
		Gas lift		
		Multiphase flow in pipes		
		Well Testing		
		Stimulation		

13.PersonalDevelopmentPlanning
Provide modern calculations in production engineering and the real application in oil and gas fields.
14.Admission criteria.
15.Keysources of information about the programme

Curriculum Skills Map																			
please tickin therelevant boxeswhereindividualProgramme LearningOutcomesare beingassessed																			
				Programme LearningOutcomes															
Year/ Level	Course Code	Course Title	Core(C) Titleor Option (O)	Knowledgeand understanding				Subject-specific skills				ThinkingSkills				GeneralandTransferable Skills(or)Otherskills relevanttoemployability andpersonaldevelopment			
				A1	**A2**	**A3**	**A4**	**B1**	**B2**	**B3**	**B4**	**C1**	**C2**	**C3**	**C4**	**D1**	**D2**	**D3**	**D4**
4TH	404	Inflow Performance Relationship																	
		Vertical lift performance																	
		Gas lift																	
		Multiphase flow in pipes																	
		Well Testing																	
		Stimulation																	

TEMPLATEFORCOURSESPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW:PROGRAMMEREVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunitiesthatareprovided.Itshouldbecross-referencedwiththeprogramme specification.

1.Teaching Institution	College of Engineering-University of Baghdad
2.UniversityDepartment/Centre	Petroleum Engineering Department
3.Course title/code	Production Engineering PE-404
4.Modesof Attendance offered	Annual System; The mode is a “Day Program”. The students are full time on Campus. They attend full day program in Face-to-face mode. The academic year is Composed of 30-weekL5 hour per week regular subjects. Each graduating student has to successfully complete 150 hours
5.Semester/Year	2018-2019
6.Number of hours tuition(total)	150
7.Dateof production/revision of this specification	10-2-2021
8.Aims of the Course	

9· LearningOutcomes, Teaching,LearningandAssessmentMethode

A-Cognitive goals.A1. A2. A3. A4. A5. A6.
B.The skillsgoalsspecialtothe course. B1. B2. B3.
TeachingandLearningMethods
Assessmentmethods
C.Affective andvaluegoals C1. C2. C3. C4.
TeachingandLearningMethods
Assessmentmethods

D.Generalandrehabilitativetransferred skills(other skillsrelevantto employabilityand personaldevelopment) D1. D2. D3. D4.

10.Course Structure					
Week	Hours	ILOs	Unit/Moduleor TopicTitle	Teaching Method	Assessment Method
7	35		Inflow performance relationship IPR	**Discussion and several home works**	
7	35		Vertical Lift Performance	**Practical lesson and posters, several home works long discussions**	
2	10		Multiphase flow in pipes	**Discussion and home works**	
4	20		Working Charts	**Practical lesson and several home works**	
2	10		Gas Lift	**Discussion and home work**	
6	30		Well Testing	**Practical lesson and posters, several home works long discussions**	
2	10		Stimulation	**Discussion**	

11.Infrastructure	
1. Books Required reading:	5. Text book; some related References; 6. Reservoir Eng. Handbook' Tarik Ahmed 7. Advance Reservoir Eng.' Tarik Ahmed 8. Training Software – Evaluation 9. Films and posters
2. Main references(sources)	Production-II
A- Recommended books and references(scientific journals, reports…).	1-SPEJ, 2- Journal of Petroleum Science and Engineering

B-Electronic references, Internet sites…	

12.The development of the curriculum plan

Republic ofIraq
MinistryofHigher Education&ScientificResearch
Supervision and Scientific Evaluation Directorate
QualityAssurance and Academic Accreditation
International AccreditationDept.

Academic Program Specification Form For The Academic

University: Baghdad
College: Engineering
Number Of Departments In The College: petroleum department
Date Of Form Completion :

Dean' sName

Date: / /

Signature

Dean' sAssistantFor ScientificA ffairs

Date: / /
Signature

TheCollegeQualityAssurance AndUniversityPerformance Manager

Date: / /
Signature

QualityAssuranceAndUniversityPerformanceManager
Date: / /
Signature

TEMPLATEFORPROGRAMMESPECIFICATION

HIGHEREDUCATIONPERFORMANCEREVIEW:PROGRAMMEREVIEW

PROGRAMMESPECIFICATION

The Course Specification provides a summary of the main subjects of the course and the typical student might reasonably be expected to learn the main subjects in petroleum industry. Moreover, the students knew how to think and use the modern solutions to solve the industrial problems in oil industry

1.Teaching Institution	College of Engineering-University of Baghdad
2.UniversityDepartment/Centre	Petroleum Engineering Department
3.ProgrammeTitle	Reservoir Engineering 300PE
4.Title of FinalAward	Production Engineering
5.Modes of Attendance offered	Annual System; The mode is a “Day Program”. The students are full time on Campus. They attend full day program in Face-to-face mode. The academic year is Composed of 30-week regular subjects. Each graduating student has to successfully complete 150 hours.
6.Accreditation	Petroleum engineering
7.Other external influences	
8.Date of production/revision of This specification	2020-2021
9.Aimsofthe Programmed	
The Students will get the principles knowledge of essential subjects in petroleum reservoir Engineering and some details for the reservoir rock and fluid properties; in addition and how to deal with field operation; as following details	
(a) Describe terminology and commonly-applied methods for quantifying well performance.	

(b) Describe appropriate reservoir pressure and temperature/ reservoir volume and material balance.
(c) Ability to work on multi-disciplinary teams.
(d) An ability to identify, formulate, and solve engineering problems
(e) Be able to estimate production performance for oil, gas and two phase flow wells including reservoir inflow and wellbore flow

10.Learning Outcomes, Teaching, Learning and Assessment Methods

A1- Describe terminology and commonly-applied methods for quantifying well performance.

A2- Calculate expected fluid pressure losses through components of a basic petroleum production system.

A3- Apply Well Test Analysis using Conventional Plots.

A4- Be able to estimate production performance for oil, gas and two phase flow wells including reservoir inflow and wellbore flow.

A5- Describe appropriate well stimulation technologies and/or artificial lift based upon well construction, fluid properties and inflow characteristics.

A6- Be able to design and optimize hydraulic fracture treatment.

A7- Be able to select correct stimulation methods for improving production performance (hydraulic fracturing or acid stimulation)

B. The skills goals special to the programme .

B1- Be able to evaluate near wellbore problems in oil and gas well production, identify the problems cause by formation damage and well completion and estimate their effect on production.

B2- An ability to design and conduct experiments, as well as to analyze and interpret data.

B3- Ability to function on multi-disciplinary teams.

B4- An ability to identify, formulate, and solve engineering problems.

Teaching and Learning Methods

Give the term extended time and request for submit Reports at end of the term; this help the students to get good knowledge for well designs. Show case studies of Iraqi wells and the impact of wrong selection on HC production, Add the basic calculation of multiphase flow to enhance the complete knowledge of HC flowing in pipes, Using different methods of inflow performance relationships and show the difference between them for the best fields selection.

Assessment methods
Enriched discussion and several home works, Report and Quizzes, Practical lesson and posters & long discussions and demo Software.
C. Affective and value goals C1. The broad education necessary to understand the impact of engineering solution in a global economic, environmental and societal context. .C2. An ability to apply knowledge of mathematics, science, and engineering C3. C4.
Teaching and Learning Methods
Assessment methods

D.GeneralandTransferable Skills(otherskillsrelevanttoemployabilityand personaldevelopment)

D1 An understanding of professional and ethical responsibility.

D2. An ability to communicate effectively

D3. A knowledge of contemporary issues

D4.

TeachingandLearningMethods

AssessmentMethods

11.Programme Structure				12.Awards and Credits
Level/Year	Course or Module Code	Course or Module Title	Credit rating	
4TH		Inflow Performance Relationship		Bachelor Degree Requires(x)credits
		Vertical lift performance		
		Gas lift		
		Multiphase flow in pipes		
		Well Testing		
		Stimulation		

13.PersonalDevelopmentPlanning
Provide modern calculations in production engineering and the real application in oil and gas fields.
14.Admission criteria.
15.Keysources of information about the programme

Curriculum Skills Map																			
please tickin therelevant boxeswhereindividualProgramme LearningOutcomesare beingassessed																			
				Programme LearningOutcomes															
Year/ Level	Course Code	Course Title	Core(C) Titleor Option (O)	Knowledgeand understanding				Subject-specific skills				ThinkingSkills				GeneralandTransferable Skills(or)Otherskills relevanttoemployability andpersonaldevelopment			
				A1	**A2**	**A3**	**A4**	**B1**	**B2**	**B3**	**B4**	**C1**	**C2**	**C3**	**C4**	**D1**	**D2**	**D3**	**D4**
4TH	404	Inflow Performance Relationship																	
		Vertical lift performance																	
		Gas lift																	
		Multiphase flow in pipes																	
		Well Testing																	
		Stimulation																	

TEMPLATEFORCOURSESPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW:PROGRAMMEREVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunitiesthatareprovided.Itshouldbecross-referencedwiththeprogramme specification.

1.Teaching Institution	College of Engineering-University of Baghdad
2.UniversityDepartment/Centre	Petroleum Engineering Department
3.Course title/code	Production Engineering PE-404
4.Modesof Attendance offered	Annual System; The mode is a “Day Program”. The students are full time on Campus. They attend full day program in Face-to-face mode. The academic year is Composed of 30-weekL5 hour per week regular subjects. Each graduating student has to successfully complete 150 hours
5.Semester/Year	2018-2019
6.Number of hours tuition(total)	150
7.Dateof production/revision of this specification	10-2-2021
8.Aims of the Course	

9· LearningOutcomes, Teaching,LearningandAssessmentMethode

A-Cognitive goals.A1. A2. A3. A4. A5. A6.
B.The skillsgoalsspecialtothe course. B1. B2. B3.
TeachingandLearningMethods
Assessmentmethods
C.Affective andvaluegoals C1. C2. C3. C4.
TeachingandLearningMethods
Assessmentmethods

D.Generalandrehabilitativetransferred skills(other skillsrelevantto employabilityand personaldevelopment)
D1.
D2.
D3.
D4.

10.Course Structure					
Week	Hours	ILOs	Unit/Moduleor TopicTitle	Teaching Method	Assessment Method
7	35		Inflow performance relationship IPR	**Discussion and several home works**	
7	35		Vertical Lift Performance	**Practical lesson and posters, several home works long discussions**	
2	10		Multiphase flow in pipes	**Discussion and home works**	
4	20		Working Charts	**Practical lesson and several home works**	
2	10		Gas Lift	**Discussion and home work**	
6	30		Well Testing	**Practical lesson and posters, several home works long discussions**	
2	10		Stimulation	**Discussion**	

11.Infrastructure	
1. Books Required reading:	10. Text book; some related References; 11. Reservoir Eng. Handbook' Tarik Ahmed 12. Advance Reservoir Eng.' Tarik Ahmed 13. Training Software – Evaluation 14. Films and posters
2. Main references(sources)	Production-II
A- Recommended books and references(scientific journals, reports…).	1-SPEJ, 2- Journal of Petroleum Science and Engineering

B-Electronic references, Internet sites…	

12.The development of the curriculum plan

Republic of Iraq
Ministry of Higher Education & Scientific Research
Supervision and Scientific Evaluation Directorate
Quality Assurance and Academic Accreditation
International Accreditation Dept.

Academic Program Specification Form For The Academic

Universitiy: Baghdad
College :Engineering
Number Of Departments In The College : Mathematics first Class
Date Of Form Completion : 2-13-2021

Dean's Name

Date : / /

Signature

Dean's Assistant For Scientific Affairs

Date : / /
Signature

The College Quality Assurance And University Performance Manager

Date : / /
Signature

Quality Assurance And University Performance Manager
Date : / /
Signature

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

This Programme Specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It is supported by a specification for each course that contributes to the programme.

1. Teaching Institution	University of Baghdad-College of Engineering
2. University Department/Centre	Petroleum Engineering Dept.
3. Programme Title	Mathematics, first year
4. Title of Final Award	General Eng. Programme
5. Modes of Attendance offered	Annual System; The mode is a “Day Program”. The students are full time on Campus. They attend full day program in Face-to-face mode. The academic year is Composed of 30-week regular subjects. Each graduating student has to successfully complete 90 hours.
6. Accreditation	Two semesters
7. Other external influences	4 hrs. a week
8. Date of production/revision of this specification	2/13/2021
9. Aims of the Programme	
The Students will get the principles knowledge of essential subjects in General Engineering and some details for the designs and application of Mathmatics analysis; in addition and who to deal with some physical process.	

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Cognitive goals

A1. An ability to apply knowledge of mathematics, science, and engineering.

A2. An ability to design and conduct Mathematical problems, as well as to analyze and interpret input data.

A3. An ability to design simple physical systems, component, or process to meet desired needs within some constraints.

A4. Increase the student ability to work on multi-disciplinary teams.

A5. An ability to identify, formulate, and solve engineering problems.

A6. Increase the student ability to communicate effectively.

B. The skills goals special to the programme .

B1. the broad education necessary to A knowledge of theories and experiment issues.

B2.An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

B3. understand the impact of engineering solution in a global economic , environmental and societal context.

Teaching and Learning Methods

Give the term extended time and request for submit Reports at end of the term; this help the students to get good knowledge for physical problems designs.
Show case studies in physical application in mathematics and the impact of wrong selection in input data.

Assessment methods

Give the term extended time and present detailed technical posters and other related extra information.
Use modern references provided by known companies

C. Affective and value goals

C1.
C2.
C3.
C4.

Teaching and Learning Methods

1. Enriched discussion & posters 2. Discussion and several home works 3. Report and Quizzes
Assessment methods
Make Reports, HomeWorks, Quizzes

D. General and Transferable Skills (other skills relevant to employability and personal development)

D1. Skills in basic information in mathematics
D2. Interpretation of physical problems to mathematical formula

Teaching and Learning Methods

1. Enriched discussion & posters
2. Discussion and several home works
3. Report and Quizzes

Assessment Methods

Additional assessment such as youtube, Poster, and instruments

11. Programme Structure				12. Awards and Credits
Level/Year	Course or Module Code	Course or Module Title	Credit rating	
				Bachelor Degree Requires (x) credits
	112	Mathematics		First

13. Personal Development Planning
Give the term extended time and present detailed technical posters and other related extra information. Use modern references provided by known companies
14. Admission criteria .
knowledge of essential subjects in General Engineering and some details for the designs and application of Mathematics analysis
15. Key sources of information about the programme
1. Text book; some related References; 2.Eng mathematics . Handbook’ Culculas 1 3.Films and posters

Curriculum Skills Map																			
please tick in the relevant boxes where individual Programme Learning Outcomes are being assessed																			
				Programme Learning Outcomes															
Year / Level	Course Code	Course Title	Core (C) Title or Option (O**)**	Knowledge and understanding				Subject-specific skills				Thinking Skills				General and Transferable Skills (or) Other skills relevant to employability and personal development			
				A1	**A2**	**A3**	**A4**	**B1**	**B2**	**B3**	**B4**	**C1**	**C2**	**C3**	**C4**	**D1**	**D2**	**D3**	**D4**
							*			*					*				*

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	University of Baghdad-College of Engineering
2. University Department/Centre	Petroleum Engineering Dept.
3. Course title/code	Mathematics
4. Modes of Attendance offered	General Eng. Programme
5. Semester/Year	year
6. Number of hours tuition (total)	112
7. Date of production/revision of this specification	2020-2021
8. Aims of the Course	
Annual System; The mode is a “Day Program”. The students are full time on	
Campus. They attend full day program in	
Face-to-face mode. The academic year is	
Composed of 30-week regular subjects.	
Each graduating student has to successfully complete 90 hours.	

9· Learning Outcomes, Teaching ,Learning and Assessment Methode

A- Cognitive goals . A1. An ability to apply knowledge of mathematics, science, and engineering.

A2. An ability to design and conduct Mathematical problems, as well as to analyze and interpret input data.

A3. An ability to design simple physical systems, component, or process to meet desired needs within some constraints.

A4. Increase the student ability to work on multi-disciplinary teams.

A5. An ability to identify, formulate, and solve engineering problems.

B. The skills goals special to the course.
B1.
B2.
B3.

Teaching and Learning Methods

B1. the broad education necessary to A knowledge of theories and experiment issues.
B2.An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.
B3. understand the impact of engineering solution in a global economic , environmental and societal context.

Assessment methods

Videos, posters, noting instrument work methods

C. Affective and value goals
C1.
C2.
C3.
C4.

Teaching and Learning Methods

Give the term extended time and request for submit Reports at end of the term; this help the students to get good knowledge for physical problems designs.
Show case studies in physical application in mathematics and the impact of wrong selection in input data.

Assessment methods

1. Enriched discussion & posters
2. Discussion and several home works
3. Report and Quizzes

D. General and rehabilitative transferred skills(other skills relevant to employability and personal development)

D1. Skills in basic information in mathematics

D2. Interpretation of physical problems to mathematical formula

10. Course Structure

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1,2,3,4	16		Intervals	Finite, definite	Homework
5,6,7,8	16		Trigonometric	Trigonometric	Homework
9,10,11,12	16		Exponential functions	Exponential	Homework
13,14,15,1	16		Logarithmic functions	Logarithmic	Homework
17-23	16		Drawing functions	Drawing	Homework
24-27	16		derivative	derivative	Homework
28-32	16		integrations	integrations	Homework

11. Infrastructure

1. Books Required reading:	Eng mathematics . Handbook’ Culculas1
2. Main references (sources)	Text book; some related References;
A- Recommended books and references (scientific journals, reports…).	Eng mathematics . Handbook’ Culculas 1
B-Electronic references, Internet sites…	3.Films and posters

12. The development of the curriculum plan

Increasing and updating related chapters to other universities syllepas

Republic of Iraq
Ministry of Higher Education & Scientific Research
Supervision and Scientific Evaluation Directorate
Quality Assurance and Academic Accreditation
International Accreditation Dept.

Academic Program Specification Form For The Academic

Universitiy: Baghdad
College :Engineering
Number Of Departments In The College : Mathematics second Class
Date Of Form Completion : 2-13-2021

Dean's Name

Date : / /

Signature

Dean's Assistant For Scientific Affairs

Date : / /
Signature

The College Quality Assurance And University Performance Manager

Date : / /
Signature

Quality Assurance And University Performance Manager
Date : / /
Signature

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

This Programme Specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It is supported by a specification for each course that contributes to the programme.

1. Teaching Institution	University of Baghdad-College of Engineering
2. University Department/Centre	Petroleum Engineering Dept.
3. Programme Title	Mathematics, second year
4. Title of Final Award	General Eng. Programme
5. Modes of Attendance offered	Annual System; The mode is a “Day Program”. The students are full time on Campus. They attend full day program in Face-to-face mode. The academic year is Composed of 30-week regular subjects. Each graduating student has to successfully complete 90 hours.
6. Accreditation	Two semesters
7. Other external influences	4 hrs. a week
8. Date of production/revision of this specification	2/13/2021
9. Aims of the Programme	
The Students will get the principles knowledge of essential subjects in General Engineering and some details for the designs and application of Mathmatics analysis; in addition and who to deal with some physical process.	

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Cognitive goals

A1. An ability to apply knowledge of mathematics, science, and engineering.

A2. An ability to design and conduct Mathematical problems, as well as to analyze and interpret input data.

A3. An ability to design simple physical systems, component, or process to meet desired needs within some constraints.

A4. Increase the student ability to work on multi-disciplinary teams.

A5. An ability to identify, formulate, and solve engineering problems.

A6. Increase the student ability to communicate effectively.

B. The skills goals special to the programme .

B1. the broad education necessary to A knowledge of theories and experiment issues.

B2.An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

B3. understand the impact of engineering solution in a global economic , environmental and societal context.

Teaching and Learning Methods

Give the term extended time and request for submit Reports at end of the term; this help the students to get good knowledge for physical problems designs.
Show case studies in physical application in mathematics and the impact of wrong selection in input data.

Assessment methods

Give the term extended time and present detailed technical posters and other related extra information.
Use modern references provided by known companies

C. Affective and value goals

C1.
C2.
C3.
C4.

Teaching and Learning Methods

1. Enriched discussion & posters 2. Discussion and several home works 3. Report and Quizzes
Assessment methods
Make Reports, HomeWorks, Quizzes

D. General and Transferable Skills (other skills relevant to employability and personal development)

D1. Skills in basic information in mathematics
D2. Interpretation of physical problems to mathematical formula

Teaching and Learning Methods

1. Enriched discussion & posters
2. Discussion and several home works
3. Report and Quizzes

Assessment Methods

Additional assessment such as youtube, Poster, and instruments

11. Programme Structure				12. Awards and Credits
Level/Year	Course or Module Code	Course or Module Title	Credit rating	
				Bachelor Degree Requires (x) credits
	112	Mathematics		second

13. Personal Development Planning
Give the term extended time and present detailed technical posters and other related extra information. Use modern references provided by known companies
14. Admission criteria .
knowledge of essential subjects in General Engineering and some details for the designs and application of Mathematics analysis
15. Key sources of information about the programme
1. Text book; some related References; 2.Eng mathematics . Handbook’ Culculas 2 3.Films and posters

Curriculum Skills Map																			
please tick in the relevant boxes where individual Programme Learning Outcomes are being assessed																			
				Programme Learning Outcomes															
Year / Level	Course Code	Course Title	Core (C) Title or Option (O)	Knowledge and understanding				Subject-specific skills				Thinking Skills				General and Transferable Skills (or) Other skills relevant to employability and personal development			
				A1	**A2**	**A3**	**A4**	**B1**	**B2**	**B3**	**B4**	**C1**	**C2**	**C3**	**C4**	**D1**	**D2**	**D3**	**D4**
							*			*					*				*

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	University of Baghdad-College of Engineering
2. University Department/Centre	Petroleum Engineering Dept.
3. Course title/code	Mathematics
4. Modes of Attendance offered	General Eng. Programme
5. Semester/Year	year
6. Number of hours tuition (total)	112
7. Date of production/revision of this specification	2020-2021
8. Aims of the Course	
Annual System; The mode is a “Day Program”. The students are full time on	
Campus. They attend full day program in	
Face-to-face mode. The academic year is	
Composed of 30-week regular subjects.	
Each graduating student has to successfully complete 90 hours.	

9· Learning Outcomes, Teaching ,Learning and Assessment Methode

A- Cognitive goals . A1. An ability to apply knowledge of mathematics, science, and engineering.

A2. An ability to design and conduct Mathematical problems, as well as to analyze and interpret input data.

A3. An ability to design simple physical systems, component, or process to meet desired needs within some constraints.

A4. Increase the student ability to work on multi-disciplinary teams.

A5. An ability to identify, formulate, and solve engineering problems.

B. The skills goals special to the course.
B1.
B2.
B3.

Teaching and Learning Methods

B1. the broad education necessary to A knowledge of theories and experiment issues.
B2.An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.
B3. understand the impact of engineering solution in a global economic , environmental and societal context.

Assessment methods

Videos, posters, noting instrument work methods

C. Affective and value goals
C1.
C2.
C3.
C4.

Teaching and Learning Methods

Give the term extended time and request for submit Reports at end of the term; this help the students to get good knowledge for physical problems designs.
Show case studies in physical application in mathematics and the impact of wrong selection in input data.

Assessment methods

1. Enriched discussion & posters
2. Discussion and several home works
3. Report and Quizzes

D. General and rehabilitative transferred skills(other skills relevant to employability and personal development)
D1. Skills in basic information in mathematics
D2. Interpretation of physical problems to mathematical formula

10. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1,2,3,4	16		vector	vector	Homework
5,6,7,8	16		matrix	matrix	Homework
9,10,11,12	16		Polar coordinate	Polar coordinate	Homework
13,14,15,1	16		Differential equations	Differential	Homework
17-23	16		Partial derivatives	Partial derivatives	Homework
24-27	16		Deferential equation	Deferential	Homework
28-32	16		application	application	Homework

11. Infrastructure	
1. Books Required reading:	Eng mathematics . Handbook’ Culculas 2
2. Main references (sources)	Text book; some related References;
A- Recommended books and references (scientific journals, reports…).	Eng mathematics . Handbook’ Culculas 2
B-Electronic references, Internet sites…	3.Films and posters

12. The development of the curriculum plan

Increasing and updating related chapters to other universities syllepas

Republic of Iraq
Ministry of Higher Education & Scientific Research
Supervision and Scientific Evaluation Directorate
Quality Assurance and Academic Accreditation
International Accreditation Dept.

Academic Program Specification Form For The Academic

Universitiy:
College :
Number Of Departments In The College :
Date Of Form Completion :

Dean's Name

Date : / /

Signature

Dean's Assistant For Scientific Affairs

Date : / /
Signature

The College Quality Assurance And University Performance Manager

Date : / /
Signature

Quality Assurance And University Performance Manager
Date : / /
Signature

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

This Programme Specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It is supported by a specification for each course that contributes to the programme.

1. Teaching Institution	University of Baghdad/ College of Engineering
2. University Department/Centre	Petroleum Engineering Department
3. Programme Title	Engineering Mathematics
4. Title of Final Award	BSc
5. Modes of Attendance offered	Yearly
6. Accreditation	
7. Other external influences	
8. Date of production/revision of this specification	1/9/2020
9. Aims of the Programme	
The aim of this program is to raise the level of students to each status in which he/she is qualified to be ready to connect what he has learned in class with the physical engineering problems.	
So that he can solve these problems by easier way in addition to applications related to petroleum engineering	
This program can also increase the understanding of petroleum engineering principles in addition to	
The solutions of important differential equations that related to petroleum industry by using different	
Approaches such as Laplace transforms and numerical methods. This can help in preventing the expected worng making-decisions that may be costly in petroleum industry.	

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Cognitive goals A1. Types of ordinary and partial differential equations. A.2 Solutions of differential that is

B. The skills goals special to the program. B.1 Mathematical skills to deal with solutions of differential equations in applications related to petroleum industry. B.2 Methods that can be used to solve applications related to engineering. B.3 Connecting between mathematics and engineering challenges that

Teaching and Learning Methods

Discussion and follow up solutions of differential equations through the time of lecture. Discussion the important challenges that related to petroleum industry.

Assessment methods

Questions and answers through the time of lecture, participation in class, HWs, Quizzes, reports, monthly exams, and final exam.

C. Affective and value goals: C.1 Thinking about how to connect the mathematics with the engineering problems. C.2. Thinking about how to build mathematical models that can representing applications related to petroleum industry. C.3 Thinking how to solve these mathematical models using methods that covered in the class syllabus.

Teaching and Learning Methods

Discussion how to connect the mathematical principles with petroleum engineering

Assessment methods

Assessment through the lecture, attendance, quizzes, monthly and final exams.

D. General and Transferable Skills (other skills relevant to employability and personal development). D1. Skills in mathematic principles. D.2 Skills in connecting between mathematics and its applications. D.3 Skills in how to deal with engineering problems. D.4. Skills in establishing and solving mathematical problems.

Teaching and Learning Methods

Assessment Methods

11. Programme Structure				12. Awards and Credits
Level/Year	Course or Module Code	Course or Module Title	Credit rating	
Third Class	PE 302	Engineering Mathematics	6	Bachelor Degree (6) credits

13. Personal Development Planning

Using the modern available techniques to reach information for students and improve their skills in solving the differential equations that related to petroleum industry, while still holding in syllabus.

14. Admission criteria.

15. Key sources of information about the programme

Syllabus
External references

Curriculum Skills Map																			
please tick in the relevant boxes where individual Programme Learning Outcomes are being assessed																			
				Programme Learning Outcomes															
Year / Level	Course Code	Course Title	Core (C) Title or Option (O**)**	Knowledge and understanding				Subject-specific skills				Thinking Skills				General and Transferable Skills (or) Other skills relevant to employability and personal development			
				A1	**A2**	**A3**	**A4**	**B1**	**B2**	**B3**	**B4**	**C1**	**C2**	**C3**	**C4**	**D1**	**D2**	**D3**	**D4**
Third	PE 302	Engineerin	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	University of Baghdad/ College of Engineering
2. University Department/Centre	Petroleum Engineering Department
3. Course title/code	Engineering Mathematics/ PE 302
4. Modes of Attendance offered	In class
5. Semester/Year	Yearly
6. Number of hours tuition (total)	112
7. Date of production/revision of this specification	1/9/2018
8. Aims of the Course	
The aim of this course is to raise the level of students to each status in which he/she is qualified to be	
So that he can solve these problems by easier way in addition to applications related to petroleum	
This program can also increase the understanding of petroleum engineering principles in addition to	
The solutions of important differential equations that related to petroleum industry by using different	
Approaches such as Laplace transforms and numerical methods. This can help in preventing the	

9· Learning Outcomes, Teaching ,Learning and Assessment Methode

A- Cognitive goals .
A1.
A2.
A3.
A4.
A5.
A6 .

B. The skills goals special to the course.
B1.
B2.
B3.

Teaching and Learning Methods

Assessment methods

C. Affective and value goals
C1.
C2.
C3.
C4.

Teaching and Learning Methods

Assessment methods

D. General and rehabilitative transferred skills(other skills relevant to employability and personal development)

D1.
D2.
D3.
D4.

10. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1, 2, 3,4	16	DEs	Solutions of DEs	Theoretical	In class
5, 6, 7, 8	16	DEs	Applications of DEs	Theoretical	In class
9, 10, 11, 12	16	DEs	Sol. Using Power Series	Theoretical	In class
13,14,15,16	16	DEs	Sol. Using Frobenious	Theoretical	In class
17,18,19,20	16	DEs	Laplace Transforms	Theoretical	In class
21,22,23,24	16	DEs	Numerical Methods	Theoretical	In class
25,26,27,28	16	DEs	Solutions of PDEs	Theoretical	In class

11. Infrastructure	
1. Books Required reading:	Syllabus
2. Main references (sources)	Advanced Engineering Mathematics
A- Recommended books and references (scientific journals, reports…).	External References
B-Electronic references, Internet sites…	YouTube Channels

12. The development of the curriculum plan

Using the modern available techniques to reach information for students and improve their skills in solving the differential equations that related to petroleum industry, while still holding in syllabus.

Republic of Iraq
Ministry of Higher Education & Scientific Research
Supervision and Scientific Evaluation Directorate
Quality Assurance and Academic Accreditation
International Accreditation Dept.

Academic Program Specification Form For The Academic

University: University of Baghdad
College : College of Engineering
Number Of Departments In The College :
Date Of Form Completion :

Dean's Name

Date : / /

Signature

Dean's Assistant For Scientific Affairs

Date : / /
Signature

The College Quality Assurance And University Performance Manager

Date : / /
Signature

Quality Assurance And University Performance Manager
Date : / /
Signature

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

This Programme Specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It is supported by a specification for each course that contributes to the programme.

1. Teaching Institution	University of Baghdad
2. University Department/Centre	College of Engineering- Department of Petroleum Engineering
3. Programme Title	The English Language
4. Title of Final Award	Bachelor of Science
5. Modes of Attendance offered	Weekly
6. Accreditation	
7. Other external influences	
8. Date of production/revision of this specification	2020-2021
9. Aims of the Programme	
The aim of this course is to empower students with the language and life skills they need to	
carry out their career goals. To this end it provides ample opportunities for students to build	
awareness and practice language in real-life scenarios. The integrated skills approach of the course	
develops the student's self-confidence to survive and succeed in professional and social encounters	
within an English-speaking global community.	

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Cognitive goals

A1 Understanding academic texts using learning strategies for reading and vocabulary building
A2. Developing conversational English skills necessary for becoming a contributing participant in small group activities, large group discussions, and oral presentations
A3. Finding and understand information about academic vocabulary, pronunciation, usage, and grammar in reference texts, online resources, and English language dictionaries

B. The skills goals special to the programme .

B1 Recognizing parts of speech and types of sentences according to structure and function
B2. Producing simple, compound, complex and compound-complex sentences
B3. Producing declarative, interrogative, imperative and exclamatory sentences
B4. Writing unified paragraphs with topic sentences and supporting details
B5. Writing cohesive coherent essays

Teaching and Learning Methods

Lectures, presentation

Assessment methods

Exams that involve problem-solving skills and critical thinking skills

C. Affective and value goals

C1 Being able to form personal opinions about issues through critical reading and listening
C2 Arguing for and defending a position in a clear and structured way using academic sources, through writing and speaking
C3.

Teaching and Learning Methods

Assessment methods

Exams that involve problem-solving skills and critical thinking skills

D. General and Transferable Skills (other skills relevant to employability and personal development)
D1. Effective communication in written and spoken English
D2. Team work

D2.
D3.
D4.

Teaching and Learning Methods

Exams that involve problem-solving skills and critical thinking skills

Assessment Methods

11. Programme Structure

Level/Year	Course or Module Code	Course or Module Title	Credit rating
First	GE110	The English Language	

12. Awards and Credits

Bachelor Degree
Requires (x) credits

13. Personal Development Planning

The aim of this course is to empower students with the language and life skills they need to carry out their career goals. To this end it provides ample opportunities for students to build awareness and practice language in real-life scenarios. The integrated skills approach of the course develops the student's self-confidence to survive and succeed in professional and social encounters within an English-speaking global community.

14. Admission criteria .

15. Key sources of information about the programme

Curriculum Skills Map																			
please tick in the relevant boxes where individual Programme Learning Outcomes are being assessed																			
				Programme Learning Outcomes															
Year / Level	Course Code	Course Title	Core (C) Title or Option (O**)**	Knowledge and understanding				Subject-specific skills				Thinking Skills				General and Transferable Skills (or) Other skills relevant to employability and personal development			
				A1	**A2**	**A3**	**A4**	**B1**	**B2**	**B3**	**B4**	**C1**	**C2**	**C3**	**C4**	**D1**	**D2**	**D3**	**D4**
First	GE110	English		x	x	x	x	x	x	x	x	x	x	x	x	x	x		

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	University o Baghdad
2. University Department/Centre	College of Engineering/ Department of petroleum
3. Course title/code	The English Language/ GE110
4. Modes of Attendance offered	Weekly
5. Semester/Year	Yearly
6. Number of hours tuition (total)	30
7. Date of production/revision of this specification	2020-2021
8. Aims of the Course	
The aim of this course is to empower students with the language and life skills they need to carry out their career goals. To this end it provides ample opportunities for students to build awareness and practice language in real-life scenarios. The integrated skills approach of the course develops the student's self-confidence to survive and succeed in professional and social encounters within an English-speaking global community.	

9· Learning Outcomes, Teaching ,Learning and Assessment Methode

A- Cognitive goals

A1 Understanding academic texts usin learning strategies for reading and vocabulary building
A2. Developing conversational English skills necessary for becoming a contributing participant in small group activities, large group discussions, and oral presentations
A3. Finding and understand information about academic vocabulary, pronunciation, usage, and

B. The skills goals special to the course.
B1. Recognizing parts of speech and types of sentences according to structure and function
B2. Producing simple, compound, complex and compound-complex sentences
B3. Producing declarative, interrogative, imperative and exclamatory sentences
B4. Writing unified paragraphs with topic sentences and supporting details

Teaching and Learning Methods

Lecturing and Exercises

Assessment methods

Exams

C. Affective and value goals
C1. Being able to form personal opinions about issues through critical reading and listening
C2 Arguing for and defending a position in a clear and structured way using academic sources, through writing and speaking
C3.

Teaching and Learning Methods

Lecturing and Exercises

Assessment methods

Exams

D. General and rehabilitative transferred skills(other skills relevant to employability and personal development)

D1.
D2.
D3.
D4.

10. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	1	A+B+C+	Introductory	Lecturing,	Exam, Kahoot
2	1	A+B+C+	UNIT	Lecturing,	
3	1	A+B+C+	UNIT	Lecturing,	
4	1	A+B+C+	NIT	Lecturing,	
5	1	A+B+C+	UNIT	Lecturing,	
6	1	A+B+C+	UNIT	Lecturing,	
7	1	A+B+C+	UNIT	Lecturing,	

11. Infrastructure	
1. Books Required reading:	General English New Headway Plus[Student's Book and Workbook with key for Beginner Level] by John and Liz Soars
2. Main references (sources)	Internet links related to the topics discussed in the books and class
A- Recommended books and references (scientific journals, reports…).	
B-Electronic references, Internet sites…	Kahoot,

12. The development of the curriculum plan

Republic of Iraq
Ministry of Higher Education & Scientific Research
Supervision and Scientific Evaluation Directorate
Quality Assurance and Academic Accreditation
International Accreditation Dept.

Academic Program Specification Form For The Academic

University :Baghdad university
College : engineering
Number Of Departments In The College :
Date Of Form Completion : 15/02/2021

Dean's Name

Date : / /

Signature

Dean's Assistant For Scientific Affairs

Date : / /
Signature

The College Quality Assurance And University Performance Manager

Date : / /
Signature

Quality Assurance And University Performance Manager
Date : / /
Signature

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

This Programme Specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It is supported by a specification for each course that contributes to the programme.

1. Teaching Institution	Baghdad university
2. University Department/Centre	Petroleum department
3. Programme Title	Computer programming
4. Title of Final Award	
5. Modes of Attendance offered	Electronic education
6. Accreditation	90 hours
7. Other external influences	
8. Date of production/revision of this specification	15/02/2021

9. Aims of the Program

This course aims to introduce students to two programming languages: FORTRAN 90 and MATLAB
The student gets acquainted with the most important basics in building the language of the program, the laws and principles in writing orders and avoiding mistakes
Programming, linguistic and logical, and learning about the mechanisms of solving mathematical equations using the two programs, and training in drawing
Geometric shapes and solving mathematical problems while reducing the percentage of errors contained in solving a mathematical problem or during introduction
Printing orders depending on the writing parameters of the program that the student is trained on

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A- Knowledge of writing a program in Fortran 90 without errors
2- Knowledge of writing a program in Matlab, solving mathematical problems and mastering the skill of drawing with it

B - special skills
12 - The ability to convert the mathematical problem into a program in Fortran 90
B-2 - ability to analyze engineering drawings in the Matlab program
34- Ability to solve mathematical problems in the Matlab program

Teaching and Learning Methods

Direct explanation, discussions

Assessment methods

C. Affective and value goals
C1.
C2.
C3.
C4.

Teaching and Learning Methods

Assessment methods
1- Monthly exams 2- Participation and discussion during the lecture 3- Duties 4- Final exams

D. General and Transferable Skills (other skills relevant to employability and personal development)
D1.
D2.
D3.
D4.

Teaching and Learning Methods

Assessment Methods

11. Programme Structure				12. Awards and Credits
Level/Year	Course or Module Code	Course or Module Title	Credit rating	
Second year	GE204	Computer programming	90	Bachelor Degree Requires (x) credits

13. Personal Development Planning
14. Admission criteria .
15. Key sources of information about the programme
Introduction to Fortran 90 Introduction to MATLAB

Curriculum Skills Map																			
please tick in the relevant boxes where individual Programme Learning Outcomes are being assessed																			
				Programme Learning Outcomes															
Year / Level	Course Code	Course Title	Core (C) Title or Option (O**)**	Knowledge and understanding				Subject-specific skills				Thinking Skills				General and Transferable Skills (or) Other skills relevant to employability and personal development			
				A1	**A2**	**A3**	**A4**	**B1**	**B2**	**B3**	**B4**	**C1**	**C2**	**C3**	**C4**	**D1**	**D2**	**D3**	**D4**

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	Baghdad university
2. University Department/Centre	Petroleum
3. Course title/code	GE204
4. Modes of Attendance offered	Electronic education
5. Semester/Year	2020/2021
6. Number of hours tuition (total)	90
7. Date of production/revision of this specification	15/02/2021
8. Aims of the Course	
This course aims to introduce students to two programming languages: FORTRAN 90 and MATLAB The student gets acquainted with the most important basics in building the language of the program, the laws and principles in writing orders and avoiding mistakes Programming, linguistic and logical, and learning about the mechanisms of solving mathematical equations using the two programs, and training in drawing Geometric shapes and solving mathematical problems while reducing the percentage of errors contained in solving a mathematical problem or during introduction Printing orders depending on the writing parameters of the program that the student is trained on	

9· Learning Outcomes, Teaching ,Learning and Assessment Methode

A- Knowledge and understanding

A- Knowledge of writing a program in Fortran 90 without errors

2- Knowledge of writing a program in Matlab, solving mathematical problems and mastering the skill of drawing with it

B - special skills

12 - The ability to convert the mathematical problem into a program in Fortran 90

B-2 - ability to analyze engineering

Teaching and Learning Methods

Electronic education

Assessment methods

C. Affective and value goals

C1.

C2.

C3.

C4.

Teaching and Learning Methods

Assessment methods

1- Monthly exams 2- Participation and discussion during the lecture 3- Duties 4- Final exams

D. General and rehabilitative transferred skills(other skills relevant to employability and personal development)

D1.
D2.
D3.
D4.

10. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching	Assessment Method
1-8	24	Write program	How to write Fortran 90	Electronic	Exam
8-16	24	Use program tools	Fortran 90 Tools	Electronic	Exam
17-18	6	Use library and functions of language	Functions and Libraries FORTRAN 90	Electronic	Exam
19-20	6	Write MATLAB program	How to write MATLAB	Electronic	Exam
21-22	6	Use input and output tools	Input & Output	Electronic	Exam
23-24	6	Use MATLAB	MATLAB Tools	Electroni	Exam
25-26	6	Use function and library of program	Functions and Libraries MATLAB	Electronic	Exam
27-30	24	Write loops program	LOOPS	Electronic	Exam

11. Infrastructure	
1. Books Required reading:	Introduction to Fortran 90 Introduction to MATLAB
2. Main references (sources)	Introduction to Fortran 90 Introduction to MATLAB
A- Recommended books and references (scientific journals, reports…).	

B-Electronic references, Internet sites…	

12. The development of the curriculum plan

Republic of Iraq
Ministry of Higher Education & Scientific Research
Supervision and Scientific Evaluation Directorate
Quality Assurance and Academic Accreditation
International Accreditation Dept.

Academic Program Specification Form For The Academic

Universitiy: Baghdad
College : Engineering
Number Of Departments In The College : 12
Date Of Form Completion : 1-2-2021

Dean's Name

Date : / /

Signature

Dean's Assistant For Scientific Affairs

Date : / /
Signature

The College Quality Assurance And University Performance Manager

Date : / /
Signature

Quality Assurance And University Performance Manager
Date : / /
Signature

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

This Programme Specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It is supported by a specification for each course that contributes to the programme.

1. Teaching Institution	College of Engineering-University of Baghdad
2. University Department/Centre	Petroleum Engineering Department
3. Programme Title	physics
4. Title of Final Award	B.Sc.
5. Modes of Attendance offered	Annual System; The mode is a "Day Program". The students are full time on Campus. They attend full day program in Face-to-face mode. The academic year is Composed of 30-week regular subjects. Each graduating student has to successfully complete 60 hours.
6. Accreditation	Petroleum engineering
7. Other external influences	
8. Date of production/revision of this specification	1-2-2021
9. Aims of the Programme	
learn the fundamentals of physics by understanding the concepts of energy, work, and power. Physic can be used to analyze the harmonics and vibrations and studying the basics of waves and its types as well as learning the principles of fluid mechanics and strength of materials. This course covers both studying petrophysical properties like interfacial tension, contact angle, wetting phenomena and capillary pressure and heat transfer.	

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Cognitive goals

A1- Help the pupils to develop reasoning abilities in all areas of thinking.

A2 - Help pupils develop ownership of visualization.

A3 - Helps pupils perceive the motion

B. The skills goals special to the programme .

It helps pupils to acquire appropriate information about physics and studying real models and making models for them

Teaching and Learning Methods

Upon completion of this course students will be able to:
understanding the concepts of energy, work, and power
Understand the harmonics and vibrations motion,
Understanding the principles of fluid mechanics and strength of materials
Understanding the interfacial tension, contact angle, wetting phenomena and capillary pressure and heat transfer.

Assessment methods

1- Examinations and tests
2- Activities, homework, and discussion of field experiments
3- Student participation during lectures
4- Reports, presentations and pilot programs

C. Affective and value goals

C1. The broad education necessary to understand the impact of engineering solution in a global economic, environmental and societal context.

C2. An ability to apply knowledge of mathematics, science, and engineering

C3.

Teaching and Learning Methods

Assessment methods

D. General and Transferable Skills (other skills relevant to employability and personal development)

D1. An understanding of professional and ethical responsibility.

D2. An ability to communicate effectively

D3. A knowledge of contemporary issues

.

Teaching and Learning Methods

Assessment Methods

11. Programme Structure				12. Awards and Credits
Level/Year	Course or Module Code	Course or Module Title	Credit rating	
2nd		Physics		Bachelor Degree Requires (x) credits

13. Personal Development Planning

14. Admission criteria .

1- Secondary school graduates
2-first graduates of petroleum institute

15. Key sources of information about the programme

Text book:
Fundamentals of college physics

Curriculum Skills Map

please tick in the relevant boxes where individual Programme Learning Outcomes are being assessed

				Programme Learning Outcomes															
Year / Level	Course Code	Course Title	Core (C) Title or Option (O**)**	Knowledge and understanding				Subject-specific skills				Thinking Skills				General and Transferable Skills (or) Other skills relevant to employability and personal development			
				A1	**A2**	**A3**	**A4**	**B1**	**B2**	**B3**	**B4**	**C1**	**C2**	**C3**	**C4**	**D1**	**D2**	**D3**	**D4**
2nd		physics		√	√	√	√	√	√	√		√	√	√		√	√		

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	College of Engineering-University of Baghdad
2. University Department/Centre	Petroleum Engineering Department
3. Course title/code	Physics
4. Modes of Attendance offered	Annual System; The mode is a "Day Program". The students are full time on Campus. They attend full day program in Face-to-face mode. The academic year is Composed of 30-week regular subjects. Each graduating student has to successfully complete 60 hours.
5. Semester/Year	year
6. Number of hours tuition (total)	60
7. Date of production/revision of this specification	1-2-2021
8. Aims of the Course	
learn the fundamentals of physics by understanding the concepts of energy, work, and power. Physic can be used to analyze the harmonics and vibrations and studying the basics of waves and its types as well as learning the principles of fluid mechanics and strength of materials. This course covers both studying petrophysical properties like interfacial tension, contact angle, wetting phenomena and capillary pressure and heat transfer.	

9· Learning Outcomes, Teaching ,Learning and Assessment Methode

A- Cognitive goals .

A1- Help the pupils to develop reasoning abilities in all areas of thinking.

A2 - Help pupils develop ownership of visualization.

A3 - Helps pupils perceive the motion

B. The skills goals special to the course.

It helps pupils to acquire appropriate information about physics and studying real models and making models for them

Teaching and Learning Methods

Assessment methods

C. Affective and value goals

C1- The broad education necessary to understand the impact of engineering solution in a global economic, environmental and societal context.

C2. An ability to apply knowledge of mathematics, science, and engineering

Teaching and Learning Methods

Assessment methods

D. General and rehabilitative transferred skills(other skills relevant to employability and personal development)

D1. An understanding of professional and ethical responsibility.

D2. An ability to communicate effectively

D3. A knowledge of contemporary issues

10. Course Structure

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	2		Introduction to physics		
2 3	2 2		Energy, work, and Power		
4 5 6	2 2 2		Gravitational potential energy, kinetic energy and conservation of energy.		
7 8	2 2		Simple Harmonic Motion- periodic motion.		
9 10 11	2 2 2		Pascal's principle, Archimedes's principle		
12 13 14	2 2 2		Equation of continuity, Bernoulli's theorem, viscosity		
15 16 17 18 19	2 2 2 2 2		simple harmonic motion, the potential energy of a spring, conservation of energy and the vibrating spring.		
20 21 22	2 2 2		Wave Motion: mathematical representation of a wave and speed of a transverse wave on a spring.		
23 24	2 2		Fluids density, pressure, Stress and strain. Surface tension; interfacial tension		
25 26	2 2		contact angle, wetting phenomena, capillary pressure.		

27 28	2 2		Heat transfer convection, conduction, and radiation		
29 30	2 2		Coulomb's law and the electric field, Gauss's law and electric potential		

11. Infrastructure	
1. Books Required reading:	Fundamentals of college physics (Text Book)
2. Main references (sources)	
A- Recommended books and references (scientific journals, reports…).	
B-Electronic references, Internet sites…	https://physics.org/

12. The development of the curriculum plan
    1- Delivering practical and field lectures by specialized engineers
    2- Holding training courses for students by governmental and foreign companies

Republic of Iraq
Ministry of Higher Education & Scientific Research
Supervision and Scientific Evaluation Directorate
Quality Assurance and Academic Accreditation
International Accreditation Dept.

Academic Program Specification Form For The Academic

Universitiy: Baghdad
College : Engineering
Number Of Departments In The College : 12
Date Of Form Completion : 1-2-2021

Dean's Name

Date : / /

Signature

Dean's Assistant For Scientific Affairs

Date : / /
Signature

The College Quality Assurance And University Performance Manager

Date : / /
Signature

Quality Assurance And University Performance Manager
Date : / /
Signature

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

This Programme Specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It is supported by a specification for each course that contributes to the programme.

1. Teaching Institution	College of Engineering-University of Baghdad
2. University Department/Centre	Petroleum Engineering Department
3. Programme Title	Fundamental of Petroleum Engineering
4. Title of Final Award	B.Sc.
5. Modes of Attendance offered	Annual System; The mode is a "Day Program". The students are full time on Campus. They attend full day program in Face-to-face mode. The academic year is Composed of 30-week regular subjects. Each graduating student has to successfully complete 90 hours.
6. Accreditation	Petroleum engineering
7. Other external influences	
8. Date of production/revision of this specification	1-2-2021
9. Aims of the Programme	
It provides introductory basic definitions and concepts from the fundamentals of petroleum engineering Upon completion of the study period for this subject, the student will have the ability to know the concepts and applications of petroleum engineering. The most important fundamentals are geology, geophysics, oil reservoir engineering, oil well drilling, secondary extraction operations, production engineering, oil well evaluation, palpation operations and pressure tests.	

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Cognitive goals

A1- Description of terms and methods commonly applied in petroleum engineering.

A2 - Studying and knowing the basis of petroleum engineering in terms of geology, geophysics and methods of oil exploration

A3 - Study of oil reservoirs and their related characteristics of the rocks and fluids they contain and how oil is extracted

A4- Identify the drilling methods, the equipment used for drilling, the lining materials and the naming

A5- Application of well planning analysis and knowledge of engineering techniques to determine and calculate reservoir fluids

A6- Be able to design and define the best production path by studying methods for completing the well

A7- Study surface production methods and surface oil and gas isolation methods.

B. The skills goals special to the programme .

B1 - To be able to assess the role of the oil engineer in general, to identify problems caused by damage to the formation and completion of the well and to estimate their impact on production

B2 - The ability to design and conduct experiments, analyze and interpret data

B3 - The ability to work on multi-disciplinary teams

B4 - The ability to identify, formulate and solve engineering problems

Teaching and Learning Methods

Upon completion of this course students will be able to:
Describe the role of an oil engineer and the skills required to work in this field
Understand how hydrocarbon fluids are stored and formed, Description of how to drill oil wells
Understanding of well completion and production processes

Assessment methods

1- Examinations and tests
2- Activities, homework, and discussion of field experiments
3- Student participation during lectures
4- Reports, presentations and pilot programs

C. Affective and value goals

C1. The broad education necessary to understand the impact of engineering solution in a global economic, environmental and societal context.

C2. An ability to apply knowledge of mathematics, science, and engineering

C3.

Teaching and Learning Methods

Assessment methods

D. General and Transferable Skills (other skills relevant to employability and personal development)

D1. An understanding of professional and ethical responsibility.

D2. An ability to communicate effectively

D3. A knowledge of contemporary issues

.

Teaching and Learning Methods

Assessment Methods

11. Programme Structure				12. Awards and Credits
Level/Year	Course or Module Code	Course or Module Title	Credit rating	
2nd	PE205	Fundamental of petroleum Engineering		Bachelor Degree Requires (x) credits

13. Personal Development Planning

14. Admission criteria .

2- Secondary school graduates
2-first graduates of petroleum institute

15. Key sources of information about the programme

Text book:
Fundamental principles of petroleum engineering
References:
L. P. Dake --Fundamental of reservoir engineering
Ahmed Tarek – reservoir engineering handbook
R. F. Mitchell - Fundamental of drilling engineering

Curriculum Skills Map																			
please tick in the relevant boxes where individual Programme Learning Outcomes are being assessed																			
				Programme Learning Outcomes															
Year / Level	Course Code	Course Title	Core (C) Title or Option (O)	Knowledge and understanding				Subject-specific skills				Thinking Skills				General and Transferable Skills (or) Other skills relevant to employability and personal development			
				A1	**A2**	**A3**	**A4**	**B1**	**B2**	**B3**	**B4**	**C1**	**C2**	**C3**	**C4**	**D1**	**D2**	**D3**	**D4**
2nd	PE205	Fundamental of petroleum Engineering		√	√	√	√	√	√	√		√	√	√		√	√		

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	College of Engineering-University of Baghdad
2. University Department/Centre	Petroleum Engineering Department
3. Course title/code	Fundamental of petroleum Engineering
4. Modes of Attendance offered	Annual System; The mode is a "Day Program". The students are full time on Campus. They attend full day program in Face-to-face mode. The academic year is Composed of 30-week regular subjects. Each graduating student has to successfully complete 90 hours.
5. Semester/Year	year
6. Number of hours tuition (total)	90
7. Date of production/revision of this specification	1-2-2021
8. Aims of the Course	
It provides introductory basic definitions and concepts from the fundamentals of petroleum engineering Upon completion of the study period for this subject, the student will have the ability to know the concepts and applications of petroleum engineering. The most important fundamentals are geology, geophysics, oil reservoir engineering, oil well drilling, secondary extraction operations, production engineering, oil well evaluation, palpation operations and pressure tests.	

9· Learning Outcomes, Teaching ,Learning and Assessment Methode

A- Cognitive goals . A1- Description of terms and methods commonly applied in petroleum engineering.

A2 - Studying and knowing the basis of petroleum engineering in terms of geology, geophysics and methods of oil exploration

A3 - Study of oil reservoirs and their related characteristics of the rocks and fluids they contain and how oil is extracted

A4- Identify the drilling methods, the equipment used for drilling, the lining materials and the naming

A5- Application of well planning analysis and knowledge of engineering techniques to determine and calculate reservoir fluids

A6- Be able to design and define the best production path by studying methods for completing the well

A7- Study surface production methods and surface oil and gas isolation methods

B. The skills goals special to the course.

B1 - To be able to assess the role of the oil engineer in general, to identify problems caused by damage to the formation and completion of the well and to estimate their impact on production

B2 - The ability to design and conduct experiments, analyze and interpret data

B3 - The ability to work on multi-disciplinary teams

B4 - The ability to identify, formulate and solve engineering problems

Teaching and Learning Methods

Assessment methods

C. Affective and value goals

C1- The broad education necessary to understand the impact of engineering solution in a global economic, environmental and societal context.

C2. An ability to apply knowledge of mathematics, science, and engineering

Teaching and Learning Methods
Assessment methods

D. General and rehabilitative transferred skills(other skills relevant to employability and personal development)

D1. An understanding of professional and ethical responsibility.

D2. An ability to communicate effectively

D3. A knowledge of contemporary issues

10. Course Structure

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	3		the basic Concepts		
2	3		Crude oi & its properties		
3	3		The origin of oil and its formation		
4	3		Pool and migration of oil in rocks		
5	3		Types of oil traps		
6	3		Oil exploration		
7	3		Direct and indirect indications		
8 9 10 11 12	3 3 3 3 3		Methods of geophysical exploration Magnetism and gravity And seismic methods		
13	3		Physical properties of reservoir rocks		
14	3		Methods of calculating porosity and their applications		
15	3		Methods for calculating permeability		
16	3		The rocks are saturated with fluids		
17	3		Reservoir Oil and Gas Volume Calculations		
18	3		Types of flow of reservoir fluids		
19	3		The ability of rocks to be wetted by reservoir fluids		
20	3		Capillary pressures and their accounts		
21	3		Types of oil reservoirs and their classifications		

22	3		Primary extraction of crude oil		
23	3		Drilling oil wells		
24	3		Rotary drilling methods		
25	3		Drilling fluids		
26	3		Well completion		
27	3		Well logging		
28	3		Well testing		
29	3		Secondary recovery methods		
30	3		Isolators and oil tanks		

11. Infrastructure	
1. Books Required reading:	Fundamental principles of petroleum engineering (Text Book)
2. Main references (sources)	L. P. Dake --Fundamental of reservoir engineering Ahmed Tarek – reservoir engineering handbook R. F. Mitchell - Fundamental of drilling engineering
A- Recommended books and references (scientific journals, reports…).	SPE journal
B-Electronic references, Internet sites…	https://onepetro.org/ ww.spe.org

12. The development of the curriculum plan

3- Delivering practical and field lectures by specialized engineers
4- Holding training courses for students by governmental and foreign companies

Republic of Iraq
Ministry of Higher Education & Scientific Research
Supervision and Scientific Evaluation Directorate
Quality Assurance and Academic Accreditation
International Accreditation Dept.

Academic Program Specification Form For The Academic

Universitiy:
College :
Number Of Departments In The College :
Date Of Form Completion :

Dean's Name

Date : / /

Signature

Dean's Assistant For Scientific Affairs

Date : / /
Signature

The College Quality Assurance And University Performance Manager

Date : / /
Signature

Quality Assurance And University Performance Manager
Date : / /
Signature

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

This Programme Specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It is supported by a specification for each course that contributes to the programme.

1. Teaching Institution	College of Engineering/University of Baghdad
2. University Department/Centre	Department of Petroleum
3. Programme Title	Drilling Engineering II
4. Title of Final Award	BS.C
5. Modes of Attendance offered	Direct Attendance
6. Accreditation	
7. Other external influences	
8. Date of production/revision of this specification	2020-2021
9. Aims of the Programme	
Transferred the sciences of well drilling engineering that are related to hydraulic ,lifting capacity, factors controlling rate of penetration, drilling cost, Directional drilling ,well control,hole problems	

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Cognitive goals
A

B. The skills goals special to the programme .
B1.
B2.
B3.

Teaching and Learning Methods

1-Direct teaching by power point presentation
2- on line classes
3-

Assessment methods

Quizzes, homeworks, final report, class contribution

C. Affective and value goals
C1.
C2.
C3.
C4.

Teaching and Learning Methods

Assessment methods

D. General and Transferable Skills (other skills relevant to employability and personal development)
D1.
D2.
D3.
D4.

Teaching and Learning Methods

Assessment Methods

11. Programme Structure				12. Awards and Credits
Level/Year	Course or Module Code	Course or Module Title	Credit rating	
Forth		Drilling Engineering2		Bachelor Degree Requires (x) credits

13. Personal Development Planning

14. Admission criteria .

1-secondary school graduates
2-first graduates of petroleum institute

15. Key sources of information about the programme

Curriculum Skills Map																			
please tick in the relevant boxes where individual Programme Learning Outcomes are being assessed																			
				Programme Learning Outcomes															
Year / Level	Course Code	Course Title	Core (C) Title or Option (O)	Knowledge and understanding				Subject-specific skills				Thinking Skills				General and Transferable Skills (or) Other skills relevant to employability and personal development			
				A1	**A2**	**A3**	**A4**	**B1**	**B2**	**B3**	**B4**	**C1**	**C2**	**C3**	**C4**	**D1**	**D2**	**D3**	**D4**
Forth		Drilling Engineering2		√				√				√				√			

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	College of Engineering/University of Baghdad
2. University Department/Centre	Department of Petroleum
3. Course title/code	Drilling Engineering II
4. Modes of Attendance offered	Direct Attendance
5. Semester/Year	year
6. Number of hours tuition (total)	150 hr
7. Date of production/revision of this specification	2021
8. Aims of the Course	
Transferred the sciences of well drilling engineering that are related to hydraulic ,lifting capacity, factors controlling rate of penetration, drilling cost, Directional drilling ,well control,hole problems	
factors controlling rate of penetration, drilling cost, Directional drilling ,well control,hole problems	

9· Learning Outcomes, Teaching ,Learning and Assessment Method

A- Cognitive goals .
A1.
A2.
A3.
A4.
A5.
A6 .

B. The skills goals special to the course.
B1.
B2.
B3.

Teaching and Learning Methods

1-Direct teaching by power point presentation
2- on line classes

Assessment methods

Quizzes, homeworks, final report, class contribution

C. Affective and value goals
C1.
C2.
C3.
C4.

Teaching and Learning Methods

Assessment methods

D. General and rehabilitative transferred skills(other skills relevant to employability and personal development) D1. D2. D3. D4.

10. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic	Teaching Method	Assessment Method
5	25	Directional Drilling	Directional Drilling	Direct, show and Discussion	Quiz, Discussion
5	25	Determination of optimum Hydraulics parameters	Hydraulics Optimization	Direct, show and Discussion	Quiz, Discussion
6	30	Drilling cost	Factors affecting rate of penetration	Direct, show and Discussion	Quiz, Discussion
6	30	Idtenfication causes and solutions of	Hole Problems	Direct, show and Discussion	Quiz, Discussion
3	15	Factors controlling	Lifting capacity	Direct, show and Discussion	Quiz, Discussion
3	15	Causes of	Well control	Direct, show and	Quiz, Discussion
2	10	Modern	Modern subjects	Direct, show and	Quiz, Discussion

11. Infrastructure	
1. Books Required reading:	Text book "Drilling Engineering 2"
2. Main references (sources)	1-Rig hydraulic 2-Applied drilling Engineering
A- Recommended books and references (scientific journals, reports…).	

B-Electronic references, Internet sites…	Drilling Manuals www.spe.org

12. The development of the curriculum plan
Presenting field lectures by experts