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 technology
2. University Department/Centre	Production Eng. And Metallurgy Dept.
3. Programme Title	Production Eng. Branch
4. Title of Final Award	Bachelors in production Eng.
5. Modes of Attendance offered	Annual
6. Accreditation	ABET
7. Other external influences	---------
8. Date of production/revision of this specification	2015

9. Aims of the Programme

The massage:- the massage of the branch is derived from the massage of the department ' produce capable engineers that can work efficiently in the field of production

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Knowledge and Understanding
A1. The ability to apply knowledge in the fields of mathematics, science, engineering specialized application in mechanical engineering.
A2. To collect the necessary science in various disciplines of engineering metals.
A3. prepare student of continued learning and self- collecting techniques and new skills in the field of engineering.
A4. to build the skills by following the correct procedures.

B. Subject-specific skills

B1. the ability to build and conduct the required tests and collect, collate and analyze the results of tests.

B2. The ability to design, audit and supervise the implementation of engineering parts using all engineering materials.

B3. the ability to derive and approach to engineering issues in scientific manner and determine the appropriate method to address the engineering problems emerging.

Teaching and Learning Methods

- Academic program study theoretical and practical lessons jurisdiction.
- Program the theoretical study using white board or crossbar data show tethered to PC, to discuss ideas and fact with the students.
- Program practical lessons conducted a jurisdiction are laboratory experiments or field and collect measurements by small groups of students, and analysis of measurements, discussed and display.

Assessment methods

- The number of classroom assignments and homework.
- Reporting on the practical experience.
- Exams monthly and daily.
- Final exams.

C. Thinking Skills

C1.the ability to device and selection tests emerging and collect, collate and analyze the results of those tests.
C2.compared to the designs of the proposed ideas and criticism and scrutiny the term of reference of production engineering.
C3.ability to proposed alternatives to approach engineering problems in a scientific manner and determine the appropriate method to address these problems.

Teaching and Learning Methods

- Vocabulary curriculum induced a variety of ways with merits of each method.
- Include vocabulary curriculum – the relevant jurisdiction- issues and real problems and motivate students to express their views and solution proposed method of optimization to address the problems and challenges.

Assessment methods

- Include questions exams and classroom assignments and homework issues and challenges that required the student to choose the best method to resolve.
- The number of reports and studies on the real problems of yard work.

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

D1.ability to work with others with in the disciplines of work per team.

D2.knows full responsibility for the moral and practical for the work that will exercise the student after graduated.

D3.the ability to offer ideas and discuss and defend orally and in writing and electronically.

D4.ability to understanding and comprehension of English language and the technical level within the area of jurisdiction

Teaching and Learning Methods

- Study some lessons relevant academic art of the administration and the relationship of law and jurisdiction rights and duties.
- Exercise the student to work through during the performance of the

program totals practical lessons.

- Encourage students to do activities present and discuss their projects and proposals in front of audience.
- Most of the vocabulary of the academic program taught in English.

Assessment Methods

- All practical activities for students during which assessments of student work and disciplines during his team.
- Lessons for the management of engineering projects which are assessing students to grasp the moral and legal responsibility.

11. Programme Structure				12. Awards and Credits
Level/Year	Course or Module Code	Course or Module Title	Credit Rating	
First year	PE 101	Programming		**Bachelor Degree Requires (x) credits**
	PE 102	Engineering mathematics		
	PE 103	Engineering mechanics		
	PE 104	Materials science		
	PE 105	Electrical technology		
	PE 106	Manufacturing processes		
	PE 107	Engineering drawing		
	PE 108	Human rights		
	PE109	Workshop training		

Level/Year	Course or Module Code	Course or Module Title	Credit Rating	
Second year	PE 201	Metallurgical engineering		**Bachelor Degree Requires (x) credits**
	PE 202	Strength of materials		
	PE 203	Mechanical drawing		
	PE 204	Computer applications		
	PE 205	Manufacturing processes II		
	PE 206	Engineering statistics		
	PE 207	Engineering mathematics II		
	PE 208	Thermodynamic and heat transfer		
	PE209	Workshop training		

Level/Year	Course or Module Code	Course or Module Title	Credit Rating	
Third year	PE 301	Plasticity		**Bachelor Degree Requires (x) credits**
	PE 302	CAD-CAM I		
	PE 303	Machine design engineering		
	PE 304	Theory of machine		
	PE 305	Metals cutting		
	PE 306	Numerical analysis		
	PE 307	Materials selection		
	PE 308	Freedom		
	PE309	Workshop training		

Level/Year	Course or Module Code	Course or Module Title	Credit Rating	
	PE 401	Production engineering		**Bachelor Degree Requires (x) credits**
	PE 402	Industrial engineering		
	PE 403	Measurements and tests		
fourth year	PE 404	Dies designs		
	PE 405	Cutting machines design		
	PE 406	CAD-CAM II		
	PE 407	Metals formation		
	PE 408	Digital control		
	PE409	Project		

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
First year	PE 101	Programming		x	x	x	x					x	x	x	x				
	PE 102	Engineering mathematics		x	x	x	x	x	x			x	x			x			
	PE 103	Engineering mechanics		x	x	x	x	x	x			x	x			x	x		
	PE 104	Materials science		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	PE 105	Electrical technology		x	x			x	x			x	x			x	x		
	PE 106	Manufacturing processes		x	x	x	x	x	x										
	PE 107	Engineering drawing		x	x	x	x	x	x	x		x	x	x		x			
	PE 108	Human rights		x	x	x		x	x	x		x	x			x			
	PE109	Workshop training																	

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

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
second year	PE 201	Metallurgical engineering		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	PE 202	Strength of materials		X	X	X	X	X	X			X	X			X			
	PE 203	Mechanical drawing		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	PE 204	Computer applications		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	PE 205	Manufacturing processes II		X	X	X	X									X			
	PE 206	Engineering statistics		X	X	X		X	X	X		X	X			X	X		
	PE 207	Engineering mathematics II		X	X			X	X			X	X	X		X			
	PE 208	Thermodynamic and heat transfer		X				X	X	X		X	X			X			
	PE209	Workshop training																	

				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 year	PE 301	Plasticity		X	X			X	X	X		X				X			
	PE 302	CAD-CAM I		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	PE 303	Machine design engineering		X				X	X	X		X	X	X		X			
	PE 304	Theory of machine		X				X	X			X	X	X	X	X			
	PE 305	Metals cutting		X	X	X	X												
	PE 306	Numerical analysis		X	X	X	X	X	X			X	X			X			
	PE 307	Materials selection		X				X	X	X		X				X			
	PE 308	Freedom		X	X	X		X	X	X		X	X						
	PE309	Workshop training																	

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

Curriculum Skills Map

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
fourth year	PE 401	Production engineering		X	X	X	X	X	X	X									
	PE 402	Industrial engineering		X				X	X	X		X				X			
	PE 403	Measurements and tests		X	X	X		X	X			X	X			X	X		
	PE 404	Dies designs		X	X	X		X	X	X		X	X			X			
	PE 405	Cutting machines design		X				X	X			X	X	X		X			
	PE 406	CAD-CAM II		X	X			X	X			X	X			X	X		
	PE 407	Metals formation		X	X			X	X	X		X				X	X		
	PE 408	Digital control		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	PE409	Project																	

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	
2. University Department/Centre	
3. Programme Title	
4. Title of Final Award	
5. Modes of Attendance offered	
6. Accreditation	
7. Other external influences	
8. Date of production/revision of this specification	
9. Aims of the Programme	

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Knowledge and Understanding
  A1.
  A2.
  A3.
  A4.
  A5.
  A6.

B. Subject-specific skills
  B1.
  B2.
  B3.

Teaching and Learning Methods
Assessment methods

C. Thinking Skills
  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.

1. Teaching Institution	University of Technology
2. University Department/Centre	Department of Production Engineering & Metallurgy
3. Course title/code	Engineering drawing
4. Programme(s) to which it contributes	Production Engineering and Metal Extraction
5. Modes of Attendance offered	Complete Hours
6. Semester/Year	1st&2ndSemester / Year
7. Number of hours tuition (total)	3hrs. /w Tutorial &theory Including CAD lab.
8. Date of production/revision of this specification	25/5/2014

9. Aims of the Course

Understanding the fundamental concepts of Eng. Drawing and the ability to draw basic mechanical components according to ISO specifications and How to use drawing tools, Line in engineering drawing, Geometric construction of ellipse, How to find different views from isometric drawing, Isometric drawing, Dimensioning, Projecting the third view Isometric drawing with Two views, Full Sections, Half Sections

10· Learning Outcomes, Teaching ,Learning and Assessment Methode

A- Knowledge and Understanding
A1.Using and understanding Engineering drawing tools correctly

A2. Learning the types of lines in Engineering drawing.

A3.Learninggeometric constructions of engineering shapes

A4.The three views, their types and how to draw them

A5. 3-D drawings, Isometric, Oblique and others. Drawing dimensions and scals.

B. Subject-specific skills
B1. Lectures
B2. Tutorials application
B3. CAD drawings

Teaching and Learning Methods

1- Lectures, discussions and examples
2- Actual drawings and exercises

Assessment methods

1- Continues assessments
2- Oral and applied examinations.
3- Home works
4- CAD
5- Final examination

C. Thinking Skills

C1. Understanding the subject, discussion and analysis
   C2. Applying the results
   C3. Expression of ideas by Engineering drawings

Teaching and Learning Methods
Weekly applications
Assessment methods
1- Continues assessments and assignments. 2- Final Examination

D. General and Transferable Skills (other skills relevant to employability and personal development)
D1. Imagining of 3-D objects, hidden parts and how to draw them correctly   D2. The required number of views that details the objects

11. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	٣	**a, c, e, d, h, k**	Introduction	Weekly applications	Continues assessments Final Examination+
2	٣	**a, c, e, d, h, k**	How to use drawing tools	Weekly applications	Continues assessments Final Examination+
3	٣	**a, c, e, d, h, k**	Line in engineering drawing	Weekly applications	Continues assessments Final Examination+
4	٣	**a, c, e, d, h, k**	Line in engineering drawing	Weekly applications	Continues assessments Final Examination+
5	٣	**a, c, e, d, h, k**	Line in engineering drawing	Weekly applications	Continues assessments Final Examination+
6	٣	**a, c, e, d, h, k**	Line in engineering drawing	Weekly applications	Continues assessments Final Examination+
7	٣	**a, c, e, d, h, k**	Line in engineering drawing	Weekly applications	Continues assessments Final Examination+
8	٣	**a, c, e, d, h, k**	Geometric construction of ellipse	Weekly applications	Continues assessments Final Examination+
9	٣	**a, c, e, d, h, k**	Geometric construction of ellipse	Weekly applications	Continues assessments Final Examination+
10	٣	**a, c, e, d, h, k**	Geometric construction of ellipse	Weekly applications	Continues assessments Final Examination+
11	٣	**a, c, e, d, h, k**	How to find different views from isometric drawing	Weekly applications	Continues assessments Final Examination+
12	٣	**a, c, e, d, h, k**	How to find different views from isometric drawing	Weekly applications	Continues assessments Final Examination+
13	٣	**a, c, e, d, h, k**	How to find different views from isometric drawing	Weekly applications	Continues assessments Final Examination+
14	٣	**a, c, e, d, h, k**	Isometric drawing	Weekly applications	Continues assessments Final Examination+
15	٣	**a, c, e, d, h, k**	Isometric drawing	Weekly applications	Continues assessments Final Examination+
16	٣	**a, c, e, d, h, k**	Isometric drawing	Weekly applications	Continues assessments Final Examination+
17	٣	**a, c, e, d, h, k**	Isometric drawing	Weekly applications	Continues assessments Final Examination+
18	٣	**a, c, e, d, h, k**	Dimensioning	Weekly applications	Continues assessments Final Examination+
19	٣	**a, c, e, d, h, k**	Projecting the third view	Weekly applications	Continues assessments Final Examination+
20	٣	**a, c, e, d, h, k**	Projecting the third view	Weekly applications	Continues assessments Final Examination+

21	٣	a, c, e, d, h, k	Projecting the third view	Weekly applications	Continues assessments Final Examination+
22	٣	a, c, e, d, h, k	Isometric drawing with Two views	Weekly applications	Continues assessments Final Examination+
23	٣	a, c, e, d, h, k	Isometric drawing with Two views	Weekly applications	Continues assessments Final Examination+
24	٣	a, c, e, d, h, k	Isometric drawing with Two views	Weekly applications	Continues assessments Final Examination+
25	٣	a, c, e, d, h, k	Isometric drawing with Two views	Weekly applications	Continues assessments Final Examination+
26	٣	a, c, e, d, h, k	Isometric drawing with Two views	Weekly applications	Continues assessments Final Examination+
27	٣	a, c, e, d, h, k	Full Sections	Weekly applications	Continues assessments Final Examination+
٢٨	٣	a, c, e, d, h, k	Full Sections	Weekly applications	Continues assessments Final Examination+
٢٩	٣	a, c, e, d, h, k	Half Sections	Weekly applications	Continues assessments Final Examination+
٣٠	٣	a, c, e, d, h, k	Half Sections	Weekly applications	Continues assessments Final Examination+

12. Infrastructure	
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	Engineering Drawing by AbdilRassol Al khafaf
Special requirements (include for example workshops, periodicals, IT software, websites)	CAD and CAD software and Engineering Drawing Suites.
Community-based facilities (include for example, guest Lectures , internship , field studies)	

13. Admissions	
Pre-requisites	Pass from last stage (year).
Minimum number of students	No limit.
Maximum number of students	No limit.

TEMPLATE FOR TYPICAL SITE VISIT CHEDULE

1. The typical site visit schedule is designed for two or three days. It includes pre-arranged meetings. The responsibility for arranging these meetings and fitting the template to the circumstances rests with the Universities Quality Assurance and University Performance departments

2. Site visits will normally commence at 09:00 on day 1. Start times of pre-arranged meetings are indicated. Pre-arranged meetings should not normally last more than one hour. The schedule should not completely fill all times with meetings, but leave space for additional activities by peer reviewers including preparing for meetings, updating notes and records and drafting paragraphs for the draft Programme Review report

Table (1)

Session	Time	Activity
Day 1		
1	09:00	Welcome and introductions; brief introduction to the review (purposes, intended outcomes, use of evidence and self-evaluation report) – Programme Team
2	09:30	Curriculum; discussion with faculty members
3	11:00	Meeting with a group of students
4	12:30	Efficiency: tour of resources
5	14:00	Review panel meeting: scrutiny of additional documentation including sample of students' assessed work
6	15:00	Efficiency: meeting with faculty members
7	16:00	Review panel meeting: review of the evidence and any gaps or matters to follow-up
8	17:00	Meeting with external stakeholders (sample of graduates, employers, other partners)
Day 2		
9	08:45	Review meeting with review chairperson, review coordinator, programme leader: summary of day 1 findings, addressing any gaps, adjust the schedule for day 2 if required
10	09:00	Academic standards: meeting with faculty members
11	10:30	Effectiveness of quality management and assurance: meeting with faculty members
12	12:00	Review panel meeting: review of evidence and any matters still to be addressed
13	14:00	Flexible time to pursue any matters arising
14	14:30	Review panel final meeting: decisions on outcomes and drafting oral feedback
15	16:30	Oral feedback by review chairperson to review coordinator and faculty members
	17:00	Close

TEMPLATE FOR THE FOLLOW-UP PROCESS AND REPORT, AND OUTLINE OF TYPICAL SITE VISIT SCHEDULE FOR FOLLOW-UP

TEMPLATE FOR FOLLOW-UP REPORT

Quality Assurance and Academic Accreditation Directorate / International Accreditation Department.

Institution:

Faculty:

Programme:

Follow-up Report

1. This report presents the findings of the follow-up visit, which took place on / /20__. This is part of the Universities Quality Assurance and University Performance departments arrangements to provide continuing support for the development of internal quality assurance processes and continuing improvement

2. The purposes of the follow-up review are to assess the progress made in the programme since the Programme Review report, and to provide further information and support for the continuing improvement of academic standards and quality of higher education in Iraq.

3. The evidence base used in this follow-up review and report includes:
    a) Self-Evaluation Report for the programme together with supporting information
    b) Improvement plan prepared and implemented since the Programme Review report
    c) Programme Review Report
    d) Higher Education Quality Review Report and institutional strategic plan (if any)
    e) Additional evidence presented during the follow-up visit.

4. The overall conclusions reached as the outcome of the follow-up review are as follows:
    a) The programme (give title) at (give name of institution) has/has not successfully implemented an improvement plan.
    b) Good practice in the indicators demonstrated since the Programme Review site visit includes: (insert)
    c) Matters of particular importance that should be addressed by the institution in its continuing improvement of the programme are: (insert and indicate if they are, or as yet are not, addressed by the improvement plan).

5. The detailed report is provided in Annexure A below.
Annexure A

Name of Institution_____

Date of initial Programme Review site visit_____

Date visited in follow-up   _____

Date of follow-up report   _____

Names of follow-up reviewers   Position/title   Signed

Part 1: The Internal Quality Assurance System in operation				
	Questions	**Yes? (√)**	**Comment**	**Further action required?**
1	Is the programme Self- Evaluation Report complete?			
2	Do the most recent self-evaluation reports indicate the extent to which the criteria in the Framework for Evaluation are met and/or are being addressed?			
3	Is there an improvement plan in place, informed by external and internal review?			
4	Are there any major gaps that appear not to be addressed?			
5	Is progress with the improvement plan monitored?			
6	Are there any major obstacles to the expected achievementof the improvement plan?			
7	What is the institution's estimate of the time needed to complete improvements to the programme?			
8	What is the reviewers' assessment of the time needed to complete improvements to the programme that would demonstrate the indicators?			

Part 2: Progress demonstrated with the indicators			
Indicators (refer to Framework of Evaluation)	Improvement plan points (comment on match with the Programme Review report's recommendations)	New information from follow-up site visit	Overall Conclusion
Curriculum Aims and ILOs Syllabus (content) Progression year on year Teaching and Learning Student assessment			
Efficiency Profile of admitted students Human resources Physical resources Uses made of available resources Student support Ratios of graduation to admitted students			
Academic Standards Clearly articulated standards Use of appropriate benchmarks Achievement of graduates Standards of students' assessed work			
Programme management and Assurance Arrangements for programme management Policies and procedures applied Structured comments collected and used Staff development needs identified and addressed Improvement planning processes working			

CRITERIA FOR A SUCCESSFUL REVIEW AND EVALUATION OF THE PROCESS

CRITERIA FOR A SUCCESSFUL REVIEW

1. The criteria for a successful review that informs the arrangements for Programme Review and its evaluation are as follows:

   i. The programme being reviewed is supported by existing or developing internal systems including specifications and review with a culture of self-evaluation and continuing improvement. These features of internal review provide a sound basis for the external review.

   ii. The timing of the external review is appropriate.

   iii. The profile of the visiting peer review panel matches in broad terms the profile of the academic activities in the institution.

   iv. There is due attention to detail in planning and preparation, by -

   a. The Quality Assurance and Academic Accreditation Directorate applies consistently its procedures for working with the institution and the reviewers and provides appropriate support for the external review as required

   b. The review coordinator: ensures that the evidence base generated by internal review and reporting systems is available on time to the visiting peer reviewers, and any requirements for clarification and supplementary information are satisfied

   c. The institution: provides a self-evaluation report for the programme to be externally reviewed

   d. The peer reviewers: undertake their preparation for the visit including reading the advance documentation and preparing initial commentaries that inform the conduct of the visit

   v. There is consistency in the application of the published review method and the protocols by all participants in a way that respects and supports the mission and philosophy of the overall process for continuing review and continuing improvement.

   vi. Reviewers and representatives of the institution conduct an open dialogue throughout the review that shows mutual respect.

   vii. The judgements reached by the reviewers are clear, based on the evidence available and systematically recorded.

   viii. The review report is produced on time in line with the standard report structure and is confirmed by the institution to be factually accurate.

   ix. The set of conclusions arising from the review are constructive, offering a fair and balanced view of the programme.

   x. The institution is able to benefit from the external review by giving due reflection and consideration to the findings and preparing where appropriate a realistic improvement plan

EVALUATION

2. The Quality Assurance and Academic Accreditation Directorate wishes to establish and implement procedures for the systematic evaluation of all external Programme Reviews arranged by it. The institution, the review chairperson and the peer reviewers will all routinely be asked to evaluate each external review by completing a short questionnaire. The structured comments will be analysed by the Quality Assurance and Academic Accreditation Directorate and where necessary the Quality Assurance and Academic Accreditation Directorate will take action to follow-up any difficulties highlighted. In addition, the Quality Assurance and Academic Accreditation Directorate will collate the structured comments to compile regular summary reports indicating the main features of the review process in practice, including the overall levels of satisfaction expressed by the participants, together with examples of good practice and opportunities for continuing improvement.

GLOSSARY OF TERMS IN PROGRAMME REVIEW

DEFINITIONS OF TERMS USED IN THE PROGRAMME REVIEW HANDBOOK

Some of the terms used in the Handbook and/or used in internal and external review and reporting may have different meanings according to the context in which they are used. To remove possible ambiguities, the following working definitions of the terms are offered.

ADEMIC FIELDS/SUBJECT AREAS/DISCIPLINES

Academic fields categorise recognisable and coherent domains or the scope of study such as Mathematics, Medicine, Engineering and Philosophy. Fields that have a wide scope are often subdivided; for example, Humanities include subjects like History and Literature and Arts may include separate disciplines of Fine Arts and Photography. The curriculum of some programmes may combine academic fields, or may include different subjects and disciplines such as Mathematics in Engineering or Accountancy in Business Administration.

ACADEMIC STANDARDS

Specific standards decided by the institution, and informed by external reference points. They include the minimum or threshold level of knowledge and skills to be gained by the graduates from the programme, and can be used in evaluation and review.

ACCREDITATION

The recognition accorded by an agency or other organisation to either an education programme or to an institution to confirm that it can demonstrate that the programme(s) meet acceptable standards and that the institution has effective systems to ensure the quality and continuing improvement of its academic activities, according to published criteria.

ACTION OR IMPROVEMENT PLANS

Realistic plans for improvement derived from the consideration of available evidence and evaluations; they may be implemented for more than one year, but should be prepared and reviewed annually at each level of courses, programmes and the institution.

ADMITTED STUDENTS

Students registered on a programme, including those accepted holding prior credits for admission after year 1.

BENCHMARK/REFERENCE POINTS

Benchmark statements represent general expectations about the standards of achievement and general attributes to be expected of a graduate in a given academic field or subject. Reference standards may be external or internal. External reference points allow comparison of the academic standards and quality of a programme with equivalent programmes in Iraq and internationally. Internal reference points may be used to compare one academic field with another, or to identify trends over a given time period.

COMMUNITY

A defined segment of wider society served by the institution, as determined in its mission and bylaws. It may be defined geographically or in terms of the range of organizations, groups and individuals engaged in its activities.

COURSE AIMS

Overall course aims should be expressed as the outcomes to be achieved by students completing the course as significant and assessable qualities. They should contribute to the achievement of defined aims within one or more education programmes.

CURRICULUM OR (IN THE PLURAL) CURRICULA

The complete organised learning as designed and managed by an institution for an admitted student, determined by the intended learning outcomes (ILOs) and comprising the content, the arrangements for teaching and learning and assessments of students' achievements together with the access to the range of facilities available within the University and, by arrangement, outside it, including libraries, computers studies, social, sports, internships and field studies.

DIRECTED SELF-LEARNING/INDEPENDENT LEARNING

The active promotion of personal skills included in the curriculum that support the student and graduate to seek, assimilate and learn from a range of structured and unstructured experiences. Methods of promotion include e-learning, personal and autonomous learning and fieldwork, assignments, internships, and reflexive learning. Devices commonly used that support directed self-learning beyond formal teaching lectures include logbooks, self-assessment reports, interactive learning tools or the equivalent.

E-LEARNING

Electronic-based learning using information technology may be the primary or secondary element in material associated with a programme or a course. It may be stand-alone or integrated with other teaching and learning approaches. It may include self-determination of aims, ILOs and materials using self-selection and will usually include self-assessment. It generally increases the levels of autonomy in, and responsibility for, learning. Converting existing texts or lecture notes to a website or pre-recorded media alone is generally not considered to be e-learning.

EXTERNAL EVALUATOR/EVALUATION

An appointment to a specific programme, part of a programme or course(s) by the institution to establish an independent and external professional opinion on the academic standards set and achieved in the examinations for the award of the degree.

FRAMEWORK FOR EVALUATION

The framework for evaluation provides a standard structure for evaluation of programmes. It will form the basis for self-evaluation, the site visit by external peer reviewers and the Programme Review report. It is designed to operate in all academic fields and institutions, and to apply to internal and external reviews.

GENERAL PRECEPTS/BY-LAWS
Principles, by-laws and regulations, which the educational institution must have as part of the policies covering its operations.

HIGHER EDUCATION INSTITUTE (HEI)/INSTITUTION
A Faculty, College or University providing higher education programmes leading to a first university degree (B.Sc. or B.A.) or a higher degree.

INTENDED LEARNING OUTCOMES (ILOS)
The ILOs are the outcome-related definition of knowledge, understanding and skills which the institution intends for its programmes. They should be mission-related, capable of measurement (assessable) and reflect the use of external reference standards at appropriate level.

INTERNAL SYSTEM FOR QUALITY MANAGEMENT AND ASSURANCE
The system adopted by the institution to ensure that its education programmes and contributing elements meet specified needs and are continually reviewed and improved. An outcomes-related system of quality management involves precise specifications for quality from design to delivery; evaluation; the identification of good practice as well as of learning deficiencies and obstacles; performance follow-up; suggestions for development and enhancement; and the systematic review and development of processes for establishing effective policies, strategies and priorities to support continuing improvement.

JOB/LABOUR MARKET
The availability of professional, commercial, research-oriented or other fields of employment that a graduate is qualified to join upon graduation.

MISSION STATEMENT
A brief statement clearly identifying the educational institution's duty and its role in the development of the community; a mission statement may also offer brief supporting statements on the vision, values and strategic objectives of the institution.

PEER REVIEWER
A person who is professionally equal in calibre and with management and/or subject expertise to those delivering the provision, but not from the same institution and without any conflict of interest, who can contribute to the review of an education programme for internal and external quality assurance or for accreditation purposes.

PROGRAMME
For the purpose of Programme Review an education programme is defined as one which admits students who, on successful completion, receive an academic award.

PROGRAMME AIMS

The broad purposes for providing the programme which in turn guide the development and implementation of strategic objectives (to ensure that the aims are met) and ILOs (to ensure that the students work towards attaining the specified outcomes).

PROGRAMME REVIEW

Programme Review applies to all education programmes in all higher education institutions. Where the programme is studied in more than one institution, the whole programme is included in Programme Review. Programme Review in Iraq has three objectives:

1) To provide decision-makers (in the higher education institutions, Quality Assurance and Academic Accreditation Directorate , parents, students, and other stakeholders) with evidence-based judgements on the quality of learning programmes

2) To support the development of internal quality assurance processes with information on emerging good practice and challenges, evaluative comment and continuing improvement

3) To enhance the reputation of Iraq's higher education internationally.

QUALITY ASSURANCE

The institution has the means of assuring that for each education programme, academic standards are defined and achieved in line with equivalent national and international standards, that the quality of the curriculum and related infrastructure are appropriate and fulfil the expectations of the range of stakeholders, that its graduates represent the range of attributes specified and that the organisation is capable of sustained, continuing improvement.

REVIEW COORDINATOR

The nominee of an institution to coordinate a Programme Review to assist in the gathering and interpretation of information and to support the application of published methods of review.

REPORT

The regular reports prepared on the basis of Programme Reviews and evaluations of its education programme.

SELF-EVALUATION

n institution's process of evaluating a programme as part of Programme Review and within an internal system of quality management and assurance.

SITE VISIT

A scheduled visit by external peer reviewers as part of Programme Review. Normally the site visit will be for two or three days. A typical outline timetable is provided in Appendix(1).

SPECIFICATION

The detailed description of the aims, construction and intended outcomes of a programme, and any courses, specific facilities or resources that contribute to it. The specification provides information to design, manage, deliver and review the programme.

STAKEHOLDER

Those organisations, groups or individuals which have a legitimate interest in the educational activities of the institution both in respect of the quality and standards of the education and also in respect of the effectiveness of the systems and processes for assuring the quality. An effective strategic review process will include the key stakeholder groups. The precise range of stakeholder groups and their differentiated interests depend upon the mission of the institution, its range of educational activities and local circumstances. The range is usually defined by a scoping study. Examples of groups with a legitimate interest include current students, graduates, intending students and their parents or family, staff in the institution, the employing community, the relevant Government ministries, the sponsors and other funding organisations and, where appropriate, professional organisations or syndicates.

STRATEGIC OBJECTIVES/PLANS

A collection of institution-specific objectives that are derived from its mission and developed into a realistic plan based on evidence-based evaluations. Objectives concentrate on the means by which an institution seeks to deliver its mission. The plan sets out the matters to be addressed, timeframe, person responsible and estimate of costs, and is accompanied by an implementation plan with arrangements for monitoring the progress and evaluating impact.

STUDENTS'ASSESSMENT

A set of processes, including examinations and other activities conducted by the institution to measure the achievement of the intended learning outcomes of a programme and its courses. Assessments also provide the means by which students are ranked according to their achievement. Diagnostic assessment seeks to determine the existing range of knowledge and skills of a student with a view to constructing an appropriate curriculum. Formative assessment provides information on the student's performance and progress to support further learning, without necessarily counting a grade towards graduation. Summative assessment determines the final level of attainment of the student on the programme or at the end of a course that contributes credits to the programme.

STUDENTS' EVALUATIONS

The systematic gathering of students'opinions on the quality of their programme in a standardized structure together with the analysis and outcomes. Surveys using questionnaires are the most frequently used methods to collect opinions; other mechanisms include websites conferences, panels or focus groups, and representation on councils or other committees.

TEACHING AND LEARNING METHODS

The range of methods used by teachers to help students to achieve the ILOs for the course. Examples include: lectures, small group teaching such as tutorials, seminars and syndicate groups; a case study to teach students how to analyse information and reach a decision; assignments such as writing a review paper for the students to gain the skills of self-learning and presentation; field trips; practical sessions for the students to gain practical skills; and carrying out experiments to train the students to analyse the results, reach specific conclusions and prepare a report, presentation or poster.

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	
2. University Department/Centre	
3. Programme Title	
4. Title of Final Award	
5. Modes of Attendance offered	
6. Accreditation	
7. Other external influences	
8. Date of production/revision of this specification	
9. Aims of the Programme	

10. Learning Outcomes, Teaching, Learning and Assessment Methods
A. Knowledge and Understanding 　A1. 　A2. 　A3. 　A4. 　A5. 　A6.
B. Subject-specific skills 　B1. 　B2. 　B3.
Teaching and Learning Methods
Assessment methods
C. Thinking Skills 　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.

1. Teaching Institution	University of Technology
2. University Department/Centre	Department of Production Engineering & Metallurgy
3. Course title/code	ENGINEERING MATHEMATICS I
4. Programme(s) to which it contributes	Production, metallurgy and cad/cam branches
5. Modes of Attendance offered	Complete Hours
6. Semester/Year	1st&2ndSemester / Year
7. Number of hours tuition (total)	2 hr /w theory, 1hr tutorial 3hr X30W= 90hr/Year
8. Date of production/revision of this specification	18/5/2014

9. Aims of the Course

Introduces the fundamental concepts in mathematics and Teaching students the fundamental functions, differentiation, integration and their applications, vectors and matrices, Coordinates, and graphs in the plane, slope, Equations for lines, Functions and their graphs shifts, circles and parabolas, Absolute values, Limits, Continues function, The sandwich theory, Limits involving infinity, Defining limits formally with epsilons and deltas, Derivatives, Tangent lines and derivatives, Differentiation rules, Velocity, speed and other rates of change, Derivatives of trigonometric function, The chain rule, Implicit differentiation and fractional powers, Integration, the fundamental theorem of integral, integration by substitution- running the chain rule backward, Inverse function and their derivatives ,ln x , e^x and logarithmic differentiation, derivatives of inverse trigonometric function, Inverse function and their derivatives ,ln x , e^x and logarithmic differentiation, derivatives of inverse trigonometric function, Techniques of integration , Vectors and analytic geometry in space, Matrices and determinate and Complex number.

10· Learning Outcomes, Teaching ,Learning and Assessment Methode

A- Knowledge and Understanding

A1. Identify of the basic functions and their graphs.

A2. Learning the derivatives and its application for the basic functions.

A3. Learning integration , integration methods and integration applications

A4. Enable the students to know and understanding the vectors and their applications.

A5. Learning matrices, Eigen value and Eigen vectors.

B. Subject-specific skills
B1. Lectures
B2. Tutorials

Teaching and Learning Methods

1- Lectures and Explanations.
2- Discussions and exercises.

Assessment methods

1- Examinations.
2- Quizzes.
3- Exercises
4- Home works.

C. Thinking Skills
  C1. Information gathering and analysis, methods of decision making
  C2. Work as a group and survey.

Teaching and Learning Methods

1- Literatures.
2- Exercises.

Assessment methods

1- Test 1
2- Test 2.
3- Quizzes and Assignments.
4- Final Examination

D. General and Transferable Skills (other skills relevant to employability and personal development)
  Solution of different problems as applications.

11. Course Structure

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	3	a, c, e, d, h, k	Functions (Parametric, Even and odd, Periodic, Composite, Polynomial and Inverse)	Lecture	Examinations ,Quizzes, and discussions .
2	=	a, c, e, d, h, k	Trigonometric & Inverse of trigonometric Functions	=	=
3	=	a, c, e, d, h, k	Exponential and logarithmic functions, Hyperbolic & Inverse Hyperbolic Functions	=	=
4	=	a, c, e, d, h, k	Limit & Continuity , L -Hopital Rule	=	=
5	=	a, c, e, d, h, k	Derivative definition , Slop, Velocity , Acceleration, Derivative of Implicit Functions, Parametric Functions, Inverse Functions, Chain Rule	=	=
6	=	a, c, e, d, h, k	Derivative of Trigonometric Functions, Inverse Trigonometric, Exponential & Logarithmic Functions, Hyperbolic & Inverse of Hyperbolic Functions	=	=
7	=	a, c, e, d, h, k	Derivative Applications (curve Tracing, velocity and acceleration)	=	=
8	=	a, c, e, d, h, k	Definite Integral, Indefinite Integral, Rules of Integrals,	=	=
9	=	a, c, e, d, h, k	Methods of integration	=	=
10	=	a, c, e, d, h, k	Integration by Parts	=	=
11	=	a, c, e, d, h, k	Integration by Substitution (Chang of Variables),	=	=
12	=	a, c, e, d, h, k	Integration by Partial Fraction	=	=
13	=	a, c, e, d, h, k	Integration Involving Power of Trigonometric & Hyperbolic Functions	=	=
14	=	a, c, e, d, h, k	Numerical (Approximation) Integration, Trapezoidal Simpson Rules	=	=
15	=	a, c, e, d, h, k	Applications of integration (Area under the curve, centroid)	=	=
16	=	a, c, e, d, h, k	Applications of integration (Area under the curve, centroid)	=	=
17	=	a, c, e, d, h, k	Vectors	=	=
18	=	a, c, e, d, h, k	[Definition of Unit Vector, Vector algebra (Vector Operation), Direction Cosine]	=	=
19	=	a, c, e, d, h, k	Scalar & Vector Product of 2 Vectors, Angles Between 2 Vectors, Direction Ratio	=	=
20	=	a, c, e, d, h, k	Matrices	=	=
21	=	a, c, e, d, h, k	Definition, Order, Type of Matrices, Operation	=	=
22	=	a, c, e, d, h, k	Determinant	=	=
23	=	a, c, e, d, h, k	Determinant	=	=
24	=	a, c, e, d, h, k	Transpose & Inverse of Square matrix	=	=
25	=	a, c, e, d, h, k	Solution of Sets of Linear algebraic equations	=	=
26	=	a, c, e, d, h, k	Solution of Sets of Linear algebraic equations	=	=

27	=	a, c, e, d, h, k	Eigen value & Eigen Vectors	=	=
28	=	a, c, e, d, h, k	Eigen value & Eigen Vectors	=	=
29	=	a, c, e, d, h, k	Maccluarin Series	=	=
30	=	a, c, e, d, h, k	Taylor Series	=	=

12. Infrastructure	
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	1-Klaus Weltner ,[Mathematics for Physcist and engineers], springer, 2009 2-H.Anton and S.Davis [Calculus] 7th edition, whiley, 2002
Special requirements (include for example workshops, periodicals, IT software, websites)	Mathematics manual software and Internet web sites.
Community-based facilities (include for example, guest Lectures , internship , field studies)	

13. Admissions	
Pre-requisites	Pass from last stage (year).
Minimum number of students	No limit.
Maximum number of students	No limit.

TEMPLATE FOR TYPICAL SITE VISIT CHEDULE

1. The typical site visit schedule is designed for two or three days. It includes pre-arranged meetings. The responsibility for arranging these meetings and fitting the template to the circumstances rests with the Universities Quality Assurance and University Performance departments

2. Site visits will normally commence at 09:00 on day 1. Start times of pre-arranged meetings are indicated. Pre-arranged meetings should not normally last more than one hour. The schedule should not completely fill all times with meetings, but leave space for additional activities by peer reviewers including preparing for meetings, updating notes and records and drafting paragraphs for the draft Programme Review report

Table (1)

Session	Time	Activity
Day 1		
1	09:00	Welcome and introductions; brief introduction to the review (purposes, intended outcomes, use of evidence and self-evaluation report) – Programme Team
2	09:30	Curriculum; discussion with faculty members
3	11:00	Meeting with a group of students
4	12:30	Efficiency: tour of resources
5	14:00	Review panel meeting: scrutiny of additional documentation including sample of students' assessed work
6	15:00	Efficiency: meeting with faculty members
7	16:00	Review panel meeting: review of the evidence and any gaps or matters to follow-up
8	17:00	Meeting with external stakeholders (sample of graduates, employers, other partners)
Day 2		
9	08:45	Review meeting with review chairperson, review coordinator, programme leader: summary of day 1 findings, addressing any gaps, adjust the schedule for day 2 if required
10	09:00	Academic standards: meeting with faculty members
11	10:30	Effectiveness of quality management and assurance: meeting with faculty members
12	12:00	Review panel meeting: review of evidence and any matters still to be addressed
13	14:00	Flexible time to pursue any matters arising
14	14:30	Review panel final meeting: decisions on outcomes and drafting oral feedback
15	16:30	Oral feedback by review chairperson to review coordinator and faculty members
	17:00	Close

TEMPLATE FOR THE FOLLOW-UP PROCESS AND REPORT, AND OUTLINE OF TYPICAL SITE VISIT SCHEDULE FOR FOLLOW-UP

TEMPLATE FOR FOLLOW-UP REPORT

Quality Assurance and Academic Accreditation Directorate / International Accreditation Department.

Institution:

Faculty:

Programme:

Follow-up Report

1. This report presents the findings of the follow-up visit, which took place on / /20__. This is part of the Universities Quality Assurance and University Performance departments arrangements to provide continuing support for the development of internal quality assurance processes and continuing improvement

2. The purposes of the follow-up review are to assess the progress made in the programme since the Programme Review report, and to provide further information and support for the continuing improvement of academic standards and quality of higher education in Iraq.

3. The evidence base used in this follow-up review and report includes:

   a) Self-Evaluation Report for the programme together with supporting information

   b) Improvement plan prepared and implemented since the Programme Review report

   c) Programme Review Report

   d) Higher Education Quality Review Report and institutional strategic plan (if any)

   e) Additional evidence presented during the follow-up visit.

4. The overall conclusions reached as the outcome of the follow-up review are as follows:

   a) The programme (give title) at (give name of institution) has/has not successfully implemented an improvement plan.

   b) Good practice in the indicators demonstrated since the Programme Review site visit includes: (insert)

   c) Matters of particular importance that should be addressed by the institution in its continuing improvement of the programme are: (insert and indicate if they are, or as yet are not, addressed by the improvement plan).

5. The detailed report is provided in Annexure A below.

Annexure A

Name of Institution_____

Date of initial Programme Review site visit_____

Date visited in follow-up   _____

Date of follow-up report   _____

Names of follow-up reviewers   Position/title   Signed

Part 1: The Internal Quality Assurance System in operation				
	Questions	**Yes? (√)**	**Comment**	**Further action required?**
1	Is the programme Self- Evaluation Report complete?			
2	Do the most recent self-evaluation reports indicate the extent to which the criteria in the Framework for Evaluation are met and/or are being addressed?			
3	Is there an improvement plan in place, informed by external and internal review?			
4	Are there any major gaps that appear not to be addressed?			
5	Is progress with the improvement plan monitored?			
6	Are there any major obstacles to the expected achievementof the improvement plan?			
7	What is the institution's estimate of the time needed to complete improvements to the programme?			
8	What is the reviewers' assessment of the time needed to complete improvements to the programme that would demonstrate the indicators?			

Part 2: Progress demonstrated with the indicators			
Indicators (refer to Framework of Evaluation)	Improvement plan points (comment on match with the Programme Review report's recommendations)	New information from follow-up site visit	Overall Conclusion
Curriculum Aims and ILOs Syllabus (content) Progression year on year Teaching and Learning Student assessment			
Efficiency Profile of admitted students Human resources Physical resources Uses made of available resources Student support Ratios of graduation to admitted students			
Academic Standards Clearly articulated standards Use of appropriate benchmarks Achievement of graduates Standards of students' assessed work			
Programme management and Assurance Arrangements for programme management Policies and procedures applied Structured comments collected and used Staff development needs identified and addressed Improvement planning processes working			

CRITERIA FOR A SUCCESSFUL REVIEW AND EVALUATION OF THE PROCESS

CRITERIA FOR A SUCCESSFUL REVIEW

1. The criteria for a successful review that informs the arrangements for Programme Review and its evaluation are as follows:

    i. The programme being reviewed is supported by existing or developing internal systems including specifications and review with a culture of self-evaluation and continuing improvement. These features of internal review provide a sound basis for the external review.

    ii. The timing of the external review is appropriate.

    iii. The profile of the visiting peer review panel matches in broad terms the profile of the academic activities in the institution.

    iv. There is due attention to detail in planning and preparation, by -

        a. The Quality Assurance and Academic Accreditation Directorate applies consistently its procedures for working with the institution and the reviewers and provides appropriate support for the external review as required

        b. The review coordinator: ensures that the evidence base generated by internal review and reporting systems is available on time to the visiting peer reviewers, and any requirements for clarification and supplementary information are satisfied

        c. The institution: provides a self-evaluation report for the programme to be externally reviewed

        d. The peer reviewers: undertake their preparation for the visit including reading the advance documentation and preparing initial commentaries that inform the conduct of the visit

    v. There is consistency in the application of the published review method and the protocols by all participants in a way that respects and supports the mission and philosophy of the overall process for continuing review and continuing improvement.

    vi. Reviewers and representatives of the institution conduct an open dialogue throughout the review that shows mutual respect.

    vii. The judgements reached by the reviewers are clear, based on the evidence available and systematically recorded.

    viii. The review report is produced on time in line with the standard report structure and is confirmed by the institution to be factually accurate.

    ix. The set of conclusions arising from the review are constructive, offering a fair and balanced view of the programme.

    x. The institution is able to benefit from the external review by giving due reflection and consideration to the findings and preparing where appropriate a realistic improvement plan

EVALUATION

2. The Quality Assurance and Academic Accreditation Directorate wishes to establish and implement procedures for the systematic evaluation of all external Programme Reviews arranged by it. The institution, the review chairperson and the peer reviewers will all routinely be asked to evaluate each external review by completing a short questionnaire. The structured comments will be analysed by the Quality Assurance and Academic Accreditation Directorate and where necessary the Quality Assurance and Academic Accreditation Directorate will take action to follow-up any difficulties highlighted. In addition, the Quality Assurance and Academic Accreditation Directorate will collate the structured comments to compile regular summary reports indicating the main features of the review process in practice, including the overall levels of satisfaction expressed by the participants, together with examples of good practice and opportunities for continuing improvement.

GLOSSARY OF TERMS IN PROGRAMME REVIEW

DEFINITIONS OF TERMS USED IN THE PROGRAMME REVIEW HANDBOOK

Some of the terms used in the Handbook and/or used in internal and external review and reporting may have different meanings according to the context in which they are used. To remove possible ambiguities, the following working definitions of the terms are offered.

ADEMIC FIELDS/SUBJECT AREAS/DISCIPLINES

Academic fields categorise recognisable and coherent domains or the scope of study such as Mathematics, Medicine, Engineering and Philosophy. Fields that have a wide scope are often subdivided; for example, Humanities include subjects like History and Literature and Arts may include separate disciplines of Fine Arts and Photography. The curriculum of some programmes may combine academic fields, or may include different subjects and disciplines such as Mathematics in Engineering or Accountancy in Business Administration.

ACADEMIC STANDARDS

Specific standards decided by the institution, and informed by external reference points. They include the minimum or threshold level of knowledge and skills to be gained by the graduates from the programme, and can be used in evaluation and review.

ACCREDITATION

The recognition accorded by an agency or other organisation to either an education programme or to an institution to confirm that it can demonstrate that the programme(s) meet acceptable standards and that the institution has effective systems to ensure the quality and continuing improvement of its academic activities, according to published criteria.

ACTION OR IMPROVEMENT PLANS

Realistic plans for improvement derived from the consideration of available evidence and evaluations; they may be implemented for more than one year, but should be prepared and reviewed annually at each level of courses, programmes and the institution.

ADMITTED STUDENTS

Students registered on a programme, including those accepted holding prior credits for admission after year 1.

BENCHMARK/REFERENCE POINTS

Benchmark statements represent general expectations about the standards of achievement and general attributes to be expected of a graduate in a given academic field or subject. Reference standards may be external or internal. External reference points allow comparison of the academic standards and quality of a programme with equivalent programmes in Iraq and internationally. Internal reference points may be used to compare one academic field with another, or to identify trends over a given time period.

COMMUNITY

A defined segment of wider society served by the institution, as determined in its mission and bylaws. It may be defined geographically or in terms of the range of organizations, groups and individuals engaged in its activities.

COURSE AIMS

Overall course aims should be expressed as the outcomes to be achieved by students completing the course as significant and assessable qualities. They should contribute to the achievement of defined aims within one or more education programmes.

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The ILOs are the outcome-related definition of knowledge, understanding and skills which the institution intends for its programmes. They should be mission-related, capable of measurement (assessable) and reflect the use of external reference standards at appropriate level.

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The availability of professional, commercial, research-oriented or other fields of employment that a graduate is qualified to join upon graduation.

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PROGRAMME REVIEW

Programme Review applies to all education programmes in all higher education institutions. Where the programme is studied in more than one institution, the whole programme is included in Programme Review. Programme Review in Iraq has three objectives:

1) To provide decision-makers (in the higher education institutions, Quality Assurance and Academic Accreditation Directorate , parents, students, and other stakeholders) with evidence-based judgements on the quality of learning programmes
2) To support the development of internal quality assurance processes with information on emerging good practice and challenges, evaluative comment and continuing improvement
3) To enhance the reputation of Iraq's higher education internationally.

QUALITY ASSURANCE

The institution has the means of assuring that for each education programme, academic standards are defined and achieved in line with equivalent national and international standards, that the quality of the curriculum and related infrastructure are appropriate and fulfil the expectations of the range of stakeholders, that its graduates represent the range of attributes specified and that the organisation is capable of sustained, continuing improvement.

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The nominee of an institution to coordinate a Programme Review to assist in the gathering and interpretation of information and to support the application of published methods of review.

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The regular reports prepared on the basis of Programme Reviews and evaluations of its education programme.

SELF-EVALUATION

n institution's process of evaluating a programme as part of Programme Review and within an internal system of quality management and assurance.

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A scheduled visit by external peer reviewers as part of Programme Review. Normally the site visit will be for two or three days. A typical outline timetable is provided in Appendix(1).

SPECIFICATION

The detailed description of the aims, construction and intended outcomes of a programme, and any courses, specific facilities or resources that contribute to it. The specification provides information to design, manage, deliver and review the programme.

STAKEHOLDER

Those organisations, groups or individuals which have a legitimate interest in the educational activities of the institution both in respect of the quality and standards of the education and also in respect of the effectiveness of the systems and processes for assuring the quality. An effective strategic review process will include the key stakeholder groups. The precise range of stakeholder groups and their differentiated interests depend upon the mission of the institution, its range of educational activities and local circumstances. The range is usually defined by a scoping study. Examples of groups with a legitimate interest include current students, graduates, intending students and their parents or family, staff in the institution, the employing community, the relevant Government ministries, the sponsors and other funding organisations and, where appropriate, professional organisations or syndicates.

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A collection of institution-specific objectives that are derived from its mission and developed into a realistic plan based on evidence-based evaluations. Objectives concentrate on the means by which an institution seeks to deliver its mission. The plan sets out the matters to be addressed, timeframe, person responsible and estimate of costs, and is accompanied by an implementation plan with arrangements for monitoring the progress and evaluating impact.

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A set of processes, including examinations and other activities conducted by the institution to measure the achievement of the intended learning outcomes of a programme and its courses. Assessments also provide the means by which students are ranked according to their achievement. Diagnostic assessment seeks to determine the existing range of knowledge and skills of a student with a view to constructing an appropriate curriculum. Formative assessment provides information on the student's performance and progress to support further learning, without necessarily counting a grade towards graduation. Summative assessment determines the final level of attainment of the student on the programme or at the end of a course that contributes credits to the programme.

STUDENTS' EVALUATIONS

The systematic gathering of students'opinions on the quality of their programme in a standardized structure together with the analysis and outcomes. Surveys using questionnaires are the most frequently used methods to collect opinions; other mechanisms include websites conferences, panels or focus groups, and representation on councils or other committees.

TEACHING AND LEARNING METHODS

The range of methods used by teachers to help students to achieve the ILOs for the course.
Examples include: lectures, small group teaching such as tutorials, seminars and syndicate groups; a case study to teach students how to analyse information and reach a decision; assignments such as writing a review paper for the students to gain the skills of self-learning and presentation; field trips; practical sessions for the students to gain practical skills; and carrying out experiments to train the students to analyse the results, reach specific conclusions and prepare a report, presentation or poster.

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	
2. University Department/Centre	
3. Programme Title	
4. Title of Final Award	
5. Modes of Attendance offered	
6. Accreditation	
7. Other external influences	
8. Date of production/revision of this specification	
9. Aims of the Programme	

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Knowledge and Understanding
  A1.
  A2.
  A3.
  A4.
  A5.
  A6.

B. Subject-specific skills
  B1.
  B2.
  B3.

Teaching and Learning Methods
Assessment methods

C. Thinking Skills
  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

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

13. Personal Development Planning

14. Admission criteria .

15. Key sources of information about the programme

				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

Curriculum Skills Map

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

TEMPLATE FOR COURSE SPECIFICATION

PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides the main features of Engineering mechanics for studies of 1st year in department of production Eng. & Metallurgy. The main object is to establish the main topics of mechanical engineering and its basics and fundamentals and the main theories that related to this field.

1. Teaching Institution	University of Technology
2. University Department/Centre	Department of production & Metallurgy/ of Technology University
3. Course title/code	Engineering Mechanics
4. Programme(s) to which it contributes	Production engineering
5. Modes of Attendance offered	Complete Hours
6. Semester/Year	1st & 2nd semester / year
7. Number of hours tuition (total)	1+2
8. Date of production/revision of this specification	30/5/2014

9. Aims of the Course
The aims which can be achieved during teaching this course program are as follows:
The aim of this course is learn the principles of Mechanics+ Statics+ Dynamics such as Static Bodies, Resultant of Force, Equilibrium, Centered, Center of Mass, Moment of inertia, polar moment of inertia, Distributed force, friction, Moving bodies, Absolute motion, Force, mass, acceleration, energy, power, Impulse, momentum.

10· Learning Outcomes, Teaching ,Learning and Assessment Methode	
A- Knowledge and Understanding A1.Mechanics , Statics + Dynamics A2.Force system A3. Moment + Couples A4. Friction A5. Second moment of inertia +Centroid	
B. Subject-specific skills B1.Lectures B2.Tutorials+ quizzes + home works	
Teaching and Learning Methods	
1-Lectures+ Discussion +solving 2- home work	
Assessment methods	
1-Quizzes + semester exam 2- Final examination.	
C. Thinking Skills C1. To understand theories of engineering mechanics. C2. Solving the problems relative to physics.	
Teaching and Learning Methods	
Assessment methods 1-Quizes + Home works	

D. General and Transferable Skills (other skills relevant to employability and personal development)   enable the student to understand the principle of Eng. Mech. Statics+ dynamics.

11. Course Structure

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	3	a, c, e, d, h, k	Static Bodies	Lectures	Daily
2	3	a, c, e, d, h, k	Static Bodies	Lectures	Daily
3	3	a, c, e, d, h, k	Resultant of Force	Lectures	Daily
4	3	a, c, e, d, h, k	Resultant of Force	Lectures	Daily
5	3	a, c, e, d, h, k	Resultant of Force	Lectures	Daily
6	3	a, c, e, d, h, k	Equilibrium	Lectures	Daily
7	3	a, c, e, d, h, k	Equilibrium	Lectures	Daily
8	3	a, c, e, d, h, k	Equilibrium	Lectures	Daily
9	3	a, c, e, d, h, k	Centered, Center of Mass	Lectures	Daily
10	3	a, c, e, d, h, k	Centered, Center of Mass	Lectures	Daily
11	3	a, c, e, d, h, k	Moment of inertia, polar moment of inertia	Lectures	Daily
12	3	a, c, e, d, h, k	Moment of inertia, polar moment of inertia	Lectures	Daily
13	3	a, c, e, d, h, k	Distributed force, friction	Lectures	Daily
14	3	a, c, e, d, h, k	Distributed force, friction	Lectures	Daily
15	3	a, c, e, d, h, k	Distributed force, friction	Lectures	Daily

16	3	**a, c, e, d, h, k**	Moving bodies	Lectures	Daily
17	3	**a, c, e, d, h, k**	Moving bodies	Lectures	Daily
18	3	**a, c, e, d, h, k**	Absolute motion	Lectures	Daily
19	3	**a, c, e, d, h, k**	Absolute motion	Lectures	Daily
20	3	**a, c, e, d, h, k**	Force, mass, acceleration	Lectures	Daily
21	3	**a, c, e, d, h, k**	Force, mass, acceleration	Lectures	Daily
22	3	**a, c, e, d, h, k**	Force, mass, acceleration	Lectures	Daily
23	3	**a, c, e, d, h, k**	Force, energy, power	Lectures	Daily
24	3	**a, c, e, d, h, k**	Force, energy, power	Lectures	Daily
25	3	**a, c, e, d, h, k**	Force, energy, power	Lectures	Daily
26	3	**a, c, e, d, h, k**	Force, energy, power	Lectures	Daily
27	3	**a, c, e, d, h, k**	Impulse, momentum	Lectures	Daily
28	3	**a, c, e, d, h, k**	Impulse, momentum	Lectures	Daily
29	3	**a, c, e, d, h, k**	Impulse, momentum	Lectures	Daily
30	3	**a, c, e, d, h, k**	Impulse, momentum	Lectures	Daily

12. Infrastructure	
Required reading: .	1. Engineering Mechanics Statics 2. Engineering Mechanics Dynamics 3. Text books for Eng.Mech.
Special requirements (include for example workshops, periodicals, IT software, websites)	
Community-based facilities (include for example, guest Lectures , internship , field studies)	Guest lectures

13. Admissions	
Pre-requisites	
Minimum number of students	20 students
Maximum number of students	40 students

TEMPLATE FOR TYPICAL SITE VISIT CHEDULE

1. The typical site visit schedule is designed for two or three days. It includes pre-arranged meetings. The responsibility for arranging these meetings and fitting the template to the circumstances rests with the Universities Quality Assurance and University Performance departments
2. Site visits will normally commence at 09:00 on day 1. Start times of pre-arranged meetings are indicated. Pre-arranged meetings should not normally last more than one hour. The schedule should not completely fill all times with meetings, but leave space for additional activities by peer reviewers including preparing for meetings, updating notes and records and drafting paragraphs for the draft Programme Review report

Table (1)

Session	Time	Activity
Day 1		
1	09:00	Welcome and introductions; brief introduction to the review (purposes, intended outcomes, use of evidence and self-evaluation report) – Programme Team
2	09:30	Curriculum; discussion with faculty members
3	11:00	Meeting with a group of students
4	12:30	Efficiency: tour of resources
5	14:00	Review panel meeting: scrutiny of additional documentation including sample of students' assessed work
6	15:00	Efficiency: meeting with faculty members
7	16:00	Review panel meeting: review of the evidence and any gaps or matters to follow-up
8	17:00	Meeting with external stakeholders (sample of graduates, employers, other partners)
Day 2		
9	08:45	Review meeting with review chairperson, review coordinator, programme leader: summary of day 1 findings, addressing any gaps, adjust the schedule for day 2 if required
10	09:00	Academic standards: meeting with faculty members
11	10:30	Effectiveness of quality management and assurance: meeting with faculty members
12	12:00	Review panel meeting: review of evidence and any matters still to be addressed
13	14:00	Flexible time to pursue any matters arising
14	14:30	Review panel final meeting: decisions on outcomes and drafting oral feedback
15	16:30	Oral feedback by review chairperson to review coordinator and faculty members

17:00	Close

TEMPLATE FOR THE FOLLOW-UP PROCESS AND REPORT, AND OUTLINE OF TYPICAL SITE VISIT SCHEDULE FOR FOLLOW-UP

TEMPLATE FOR FOLLOW-UP REPORT

Quality Assurance and Academic Accreditation Directorate / International Accreditation Department.

Institution:

Faculty:

Programme:

Follow-up Report

1. This report presents the findings of the follow-up visit, which took place on / /20__. This is part of the Universities Quality Assurance and University Performance departments arrangements to provide continuing support for the development of internal quality assurance processes and continuing improvement

2. The purposes of the follow-up review are to assess the progress made in the programme since the Programme Review report, and to provide further information and support for the continuing improvement of academic standards and quality of higher education in Iraq.

3. The evidence base used in this follow-up review and report includes:
    a) Self-Evaluation Report for the programme together with supporting information
    b) Improvement plan prepared and implemented since the Programme Review report
    c) Programme Review Report
    d) Higher Education Quality Review Report and institutional strategic plan (if any)
    e) Additional evidence presented during the follow-up visit.

4. The overall conclusions reached as the outcome of the follow-up review are as follows:
    a) The programme (give title) at (give name of institution) has/has not successfully implemented an improvement plan.
    b) Good practice in the indicators demonstrated since the Programme Review site visit includes: (insert)
    c) Matters of particular importance that should be addressed by the institution in its continuing improvement of the programme are: (insert and indicate if they are, or as yet are not, addressed by the improvement plan).

5. The detailed report is provided in Annexure A below.

Annexure A

Name of Institution_____

Date of initial Programme Review site visit_____

Date visited in follow-up   _____

Date of follow-up report   _____

Names of follow-up reviewers   Position/title   Signed

	Part 1: The Internal Quality Assurance System in operation			
	Questions	**Yes?** (√)	**Comment**	**Further action required?**
1	Is the programme Self- Evaluation Report complete?			
2	Do the most recent self-evaluation reports indicate the extent to which the criteria in the Framework for Evaluation are met and/or are being addressed?			
3	Is there an improvement plan in place, informed by external and internal review?			
4	Are there any major gaps that appear not to be addressed?			
5	Is progress with the improvement plan monitored?			
6	Are there any major obstacles to the expected achievementof the improvement plan?			
7	What is the institution's estimate of the time needed to complete improvements to the programme?			
8	What is the reviewers' assessment of the time needed to complete improvements to the programme that would demonstrate the indicators?			

Part 2: Progress demonstrated with the indicators			
Indicators (refer to Framework of Evaluation)	Improvement plan points (comment on match with the Programme Review report's recommendations)	New information from follow-up site visit	Overall Conclusion
Curriculum Aims and ILOs Syllabus (content) Progression year on year Teaching and Learning Student assessment			
Efficiency Profile of admitted students Human resources Physical resources Uses made of available resources Student support Ratios of graduation to admitted students			
Academic Standards Clearly articulated standards Use of appropriate benchmarks Achievement of graduates Standards of students' assessed work			
Programme management and Assurance Arrangements for programme management Policies and procedures applied Structured comments collected and used Staff development needs identified and addressed			

Improvement planning processes working			

CRITERIA FOR A SUCCESSFUL REVIEW AND EVALUATION OF THE PROCESS

CRITERIA FOR A SUCCESSFUL REVIEW

1. The criteria for a successful review that informs the arrangements for Programme Review and its evaluation are as follows:

   i. The programme being reviewed is supported by existing or developing internal systems including specifications and review with a culture of self-evaluation and continuing improvement. These features of internal review provide a sound basis for the external review.

   ii. The timing of the external review is appropriate.

   iii. The profile of the visiting peer review panel matches in broad terms the profile of the academic activities in the institution.

   iv. There is due attention to detail in planning and preparation, by -

      a. The Quality Assurance and Academic Accreditation Directorate applies consistently its procedures for working with the institution and the reviewers and provides appropriate support for the external review as required

      b. The review coordinator: ensures that the evidence base generated by internal review and reporting systems is available on time to the visiting peer reviewers, and any requirements for clarification and supplementary information are satisfied

      c. The institution: provides a self-evaluation report for the programme to be externally reviewed

      d. The peer reviewers: undertake their preparation for the visit including reading the advance documentation and preparing initial commentaries that inform the conduct of the visit

   v. There is consistency in the application of the published review method and the protocols by all participants in a way that respects and supports the mission and philosophy of the overall process for continuing review and continuing improvement.

   vi. Reviewers and representatives of the institution conduct an open dialogue throughout the review that shows mutual respect.

   vii. The judgements reached by the reviewers are clear, based on the evidence available and systematically recorded.

   viii. The review report is produced on time in line with the standard report structure and is confirmed by the institution to be factually accurate.

   ix. The set of conclusions arising from the review are constructive, offering a fair and balanced view of the programme.

   x. The institution is able to benefit from the external review by giving due reflection and consideration to the findings and preparing where appropriate a realistic improvement plan

EVALUATION

2. The Quality Assurance and Academic Accreditation Directorate wishes to establish and implement procedures for the systematic evaluation of all external Programme Reviews arranged by it. The institution, the review chairperson and the peer reviewers will all routinely be asked to evaluate each external review by completing a short questionnaire. The structured comments will be analysed by the Quality Assurance and Academic Accreditation Directorate and where necessary the Quality Assurance and Academic Accreditation Directorate will take action to follow-up any difficulties highlighted. In addition, the Quality Assurance and Academic Accreditation Directorate will collate the structured comments to compile regular summary reports indicating the main features of the review process in practice, including the overall levels of satisfaction expressed by the participants, together with examples of good practice and opportunities for continuing improvement.

GLOSSARY OF TERMS IN PROGRAMME RE-VIEW

DEFINITIONS OF TERMS USED IN THE PROGRAMME REVIEW HANDBOOK

Some of the terms used in the Handbook and/or used in internal and external review and reporting may have different meanings according to the context in which they are used. To remove possible ambiguities, the following working definitions of the terms are offered.

ADEMIC FIELDS/SUBJECT AREAS/DISCIPLINES

Academic fields categorise recognisable and coherent domains or the scope of study such as Mathematics, Medicine, Engineering and Philosophy. Fields that have a wide scope are often subdivided; for example, Humanities include subjects like History and Literature and Arts may include separate disciplines of Fine Arts and Photography. The curriculum of some programmes may combine academic fields, or may include different subjects and disciplines such as Mathematics in Engineering or Accountancy in Business Administration.

ACADEMIC STANDARDS

Specific standards decided by the institution, and informed by external reference points. They include the minimum or threshold level of knowledge and skills to be gained by the graduates from the programme, and can be used in evaluation and review.

ACCREDITATION

The recognition accorded by an agency or other organisation to either an education programme or to an institution to confirm that it can demonstrate that the programme(s) meet acceptable standards and that the institution has effective systems to ensure the quality and continuing improvement of its academic activities, according to published criteria.

ACTION OR IMPROVEMENT PLANS

Realistic plans for improvement derived from the consideration of available evidence and evaluations; they may be implemented for more than one year, but should be prepared and reviewed annually at each level of courses, programmes and the institution.

ADMITTED STUDENTS

Students registered on a programme, including those accepted holding prior credits for

admission after year 1.

BENCHMARK/REFERENCE POINTS
Benchmark statements represent general expectations about the standards of achievement and general attributes to be expected of a graduate in a given academic field or subject. Reference standards may be external or internal. External reference points allow comparison of the academic standards and quality of a programme with equivalent programmes in Iraq and internationally. Internal reference points may be used to compare one academic field with another, or to identify trends over a given time period.

COMMUNITY
A defined segment of wider society served by the institution, as determined in its mission and bylaws. It may be defined geographically or in terms of the range of organizations, groups and individuals engaged in its activities.

COURSE AIMS
Overall course aims should be expressed as the outcomes to be achieved by students completing the course as significant and assessable qualities. They should contribute to the achievement of defined aims within one or more education programmes.

CURRICULUM OR (IN THE PLURAL) CURRICULA
The complete organised learning as designed and managed by an institution for an admitted student, determined by the intended learning outcomes (ILOs) and comprising the content, the arrangements for teaching and learning and assessments of students' achievements together with the access to the range of facilities available within the University and, by arrangement, outside it, including libraries, computers studies, social, sports, internships and field studies.

DIRECTED SELF-LEARNING/INDEPENDENT LEARNING
The active promotion of personal skills included in the curriculum that support the student and graduate to seek, assimilate and learn from a range of structured and unstructured experiences. Methods of promotion include e-learning, personal and autonomous learning and fieldwork, assignments, internships, and reflexive learning. Devices commonly used that support directed self-learning beyond formal teaching lectures include logbooks, self-assessment reports, interactive learning tools or the equivalent.

E-LEARNING
Electronic-based learning using information technology may be the primary or secondary element in material associated with a programme or a course. It may be stand-alone or integrated with other teaching and learning approaches. It may include self-determination of aims, ILOs and materials using self-selection and will usually include self-assessment. It generally increases the levels of autonomy in, and responsibility for, learning. Converting existing texts or lecture notes to a website or pre-recorded media alone is generally not considered to be e-learning.

EXTERNAL EVALUATOR/EVALUATION
An appointment to a specific programme, part of a programme or course(s) by the institution

to establish an independent and external professional opinion on the academic standards set and achieved in the examinations for the award of the degree.

FRAMEWORK FOR EVALUATION

The framework for evaluation provides a standard structure for evaluation of programmes. It will form the basis for self-evaluation, the site visit by external peer reviewers and the Programme Review report. It is designed to operate in all academic fields and institutions, and to apply to internal and external reviews.

GENERAL PRECEPTS/BY-LAWS

Principles, by-laws and regulations, which the educational institution must have as part of the policies covering its operations.

HIGHER EDUCATION INSTITUTE (HEI)/INSTITUTION

A Faculty, College or University providing higher education programmes leading to a first university degree (B.Sc. or B.A.) or a higher degree.

INTENDED LEARNING OUTCOMES (ILOS)

The ILOs are the outcome-related definition of knowledge, understanding and skills which the institution intends for its programmes. They should be mission-related, capable of measurement (assessable) and reflect the use of external reference standards at appropriate level.

INTERNAL SYSTEM FOR QUALITY MANAGEMENT AND ASSURANCE

The system adopted by the institution to ensure that its education programmes and contributing elements meet specified needs and are continually reviewed and improved. An outcomes-related system of quality management involves precise specifications for quality from design to delivery; evaluation; the identification of good practice as well as of learning deficiencies and obstacles; performance follow-up; suggestions for development and enhancement; and the systematic review and development of processes for establishing effective policies, strategies and priorities to support continuing improvement.

JOB/LABOUR MARKET

The availability of professional, commercial, research-oriented or other fields of employment that a graduate is qualified to join upon graduation.

MISSION STATEMENT

A brief statement clearly identifying the educational institution's duty and its role in the development of the community; a mission statement may also offer brief supporting statements on the vision, values and strategic objectives of the institution.

PEER REVIEWER

A person who is professionally equal in calibre and with management and/or subject expertise to those delivering the provision, but not from the same institution and without any conflict of

interest, who can contribute to the review of an education programme for internal and external quality assurance or for accreditation purposes.

PROGRAMME

For the purpose of Programme Review an education programme is defined as one which admits students who, on successful completion, receive an academic award.

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TEMPLATE FOR COURSE SPECIFICATION

PERFORMANCE REVIEW: Materials science

COURSE SPECIFICATION

Materials science, also commonly known as materials engineering or materials science and engineering, is an interdisciplinary field applying the properties of matter to various areas of science and engineering. This relatively new scientific field investigates the relationship between the structure of materials at atomic or molecular scales and their macroscopic properties. It incorporates elements of applied physics and chemistry.

1. Teaching Institution	Metallurgical engineering branch
2. University Department/Centre	Department of Production Engineering and Metallurgy/ University of Technology
3. Course title/code	Materials science ME104
4. Programme(s) to which itcontributes	Materials science
5. Modes of Attendance offered	Complete Hours
6. Semester/Year	1st and 2nd semester/ year
7. Number of hours tuition (total)	Three hours/ week 3h x 30 w = 90 h/year
8. Date of production/revision of this specification	2015
9. Aims of the Course	

The aim which can be achieved during teaching this program are as follows:
1 - Classification of engineering materials and installation of the crystal.
2 - Explanation and definition for all types of types of engineering materials.
3 - explain the properties and applications for all types of engineering materials.

10· Learning Outcomes, Teaching ,Learning and Assessment Methode
A- Knowledge and Understanding A1.Enabling student to get the knowledge and understanding of each type of engineering materials. A2.Proceeding the understanding of the proprieties and application of each engineering materials.
B. Subject-specific skills B1. Literatures B2.Tutorials

Teaching and Learning Methods

1- Power point literatures by Data show reviews
2- Tutorials

Assessment methods

1- Examinations
2- Quizzes
3- Home works
4- Tutorials and discussions

C. Thinking Skills
C1.Reports
C2.Research and collection data

Teaching and Learning Methods

1- Power point literatures by Data show reviews
2- Tutorials

Assessment methods

1- Quizzes and assignment
2- First term examination
3- Second term examination
4- Final examination

11. Course Structure

Week	Hours	ILOs	Unit/Module or TopicTitle	Teaching Method	Assessment Method
1.	2 +1	Theoretical and tutorial	Atomic structure of Metals	a, b, d, e, k	Examination, quizzes and reports
2.	=	=	Introduction ,The structure of the Atom	a, b, d, e, k	=
3.	=	=	The Electronic structure of the Atom	a, b, d, e, k	=
4.	=	=	The periodic table	a, b, d, e, k	=
5.	=	=	Atomic bonding	a, b, d, e, k	=
6.	=	=	Introduction , Type of Atomic bonding	a, b, d, e, k	=
7.	=	=	Binding Energy	a, b, d, e, k	=
8.	=	=	Interatomic Spacting	a, b, d, e, k	=
9.	=	=	Types of crystal system	a, b, d, e, k	=
10.	=	=	Allotropic Transformation, Planes, Direction in Unit Cell	a, b, d, e, k	=
11.	=	=	Lattice Imperfections	a, b, d, e, k	=
12.	=	=	In Introduction of Physical properties of engineering materials	a, b, d, e, k	=
13.	=	=	Mechanicalproperties	a, b, d, e, k	=
14.	=	=	Chemicalproperties	a, b, d, e, k	=
15.	=	=	Thermalproperties	a, b, d, e, k	=
16.	=	=	Opticalproperties	a, b, d, e, k	=
17.	=	=	An Introduction of A metallic engineering materials	a, b, d, e, k	=
18.	=	=	Some of Importance metallic Materials	a, b, d, e, k	=
19.	=	=	Solidification	a, b, d, e, k	=
20.	=	=	Cooling Curve of Alloys	a, b, d, e, k	=
21.	=	=	Thermal equilibrium diagram	a, b, d, e, k	=
22.	=	=	Strengthening , Types of Dispersion Strengthening	a, b, d, e, k	=
23.	=	=	Polymers and Its types	a, b, d, e, k	=
24.	=	=	Polymerization reactions	a, b, d, e, k	=

25.	=	=	Ceramic Material	**a, b, d, e, k**	=
26.	=	=	Types of Ceramic Material	**a, b, d, e, k**	=
27.	=	=	Composite material	**a, b, d, e, k**	=
28.	=	=	Types of Composite material	**a, b, d, e, k**	=
29.	=	=	Conductors & semi – conductors	**a, b, d, e, k**	=
30.	=	=	Some Types of Conductors & semi – conductors	**a, b, d, e, k**	=

12. Infrastructure	
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	1-The Science and Engineering of Materials, Donald R. Askeland, 1984 2- Fundamentals of Materials Science and Engineering , William D. Callister& David G.Rethwisch 2008.
Special requirements (include forexample workshops, periodicals,IT software, websites)	Internet web sites
Community-based facilities (include for example, guest Lectures , internship,field studies)	N/A

13. Admissions	
Pre-requisites	Past from last stage (year)
Minimum number of students	No limit
Maximum number of students	No limit

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	
2. University Department/Centre	
3. Programme Title	
4. Title of Final Award	
5. Modes of Attendance offered	
6. Accreditation	
7. Other external influences	
8. Date of production/revision of this specification	
9. Aims of the Programme	

10. Learning Outcomes, Teaching, Learning and Assessment Methods
A. Knowledge and Understanding 　A1. 　A2. 　A3. 　A4. 　A5. 　A6.
B. Subject-specific skills 　B1. 　B2. 　B3.
Teaching and Learning Methods
Assessment methods
C. Thinking Skills 　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

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 Technology
2. University Department/Centre	Department of Production engineering and Metallurgy
3. Course title/code	Programming
4. Programme(s) to which it contributes	Production engineering
5. Modes of Attendance offered	Complete hours
6. Semester/Year	1st & 2nd Semester / year
7. Number of hours tuition (total)	2hr /w theory + 1hr tutorial
8. Date of production/revision of this specification	28/5/2014

9. Aims of the Course

Introduce the students to the basic concepts of programming and computer use and the main programs which include simulation and mathematical programs and their main commands that can be used in his field of spatiality and provides him with wide data base of information on Computer: Hardware components, Computer Generation Software, Algorithms, Flow charts, Number System, MS-DOS Operating System, QBasic Language (Variables, Expressions, Operators), PRINT, INPUT commands, Trigonometric & non-trigonometric functions, IF-THEN, IF-THEN Applications, Loading and Data Processing, GOTO statements, Decision Making statements, Looping statements, Looping statements –Applications, Graphics (Screen, COLOR, PSET), Graphics (LINE, CIRCLE), Graphics – Applications, Dimensional Array (One Dimension), Dimensional Array (Two Dimension) Dimensional Array – Applications, Reading & Writing to Files, Subroutines – Applications, FUNCTION building, FUNCTION building – Applications, Mathematical equations, Statistical Drawing using Software, Digital Image Processing, Computer Aided Engineering Drawing, Introduction to MATLAB, Mathematical equations, Statistical Drawing using Software.

10· Learning Outcomes, Teaching ,Learning and Assessment Methode

A- Knowledge and Understanding
  A1. Text books
  A2. Software programs
  A3. Internet web sites
  A4. Other papers and journals

B. Subject-specific skills
  B1.
  B2.
  B3.

Teaching and Learning Methods

1- Lectures and tutorials
2- Software and programs
3- Discussion with groups
4- Home works

Assessment methods

1- Reports 2- Additional problems 3- Quizzes 4- Examination
C. Thinking Skills   Video and slide show of advanced techniques and other details
Teaching and Learning Methods
1- The use of office programs and its advances 2- Make use of web sites
Assessment methods
1- Weekly quizzes 2- Monthly exams 3- 1st term exam, 2nd term exam 4- Final exam 5- Laboratory exam and reports

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

11. Course Structure

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	2+1	a, b, d, e, k	Computer: Hardware components	Lectures	Examination, Quizzes and discussion
2	2+1	a, b, d, e, k	Computer Generations	Lectures	Examination, Quizzes and discussion
3	2+1	a, b, d, e, k	Software	Lectures	Examination, Quizzes and discussion
4	2+1	a, b, d, e, k	Algorithms, Flow charts,	Lectures	Examination, Quizzes and discussion
5	2+1	a, b, d, e, k	Number System	Lectures	Examination, Quizzes and discussion
6	2+1	a, b, d, e, k	MS-DOS Operating System	Lectures	Examination, Quizzes and discussion
7	2+1	a, b, d, e, k	QBasic Language (Variables, Expressions, Operators)	Lectures	Examination, Quizzes and discussion
8	2+1	a, b, d, e, k	PRINT, INPUT commands, Trigonometric & non-trigonometric functions	Lectures	Examination, Quizzes and discussion
9	2+1	a, b, d, e, k	IF-THEN	Lectures	Examination, Quizzes and discussion
10	2+1	a, b, d, e, k	IF-THEN Applications	Lectures	Examination, Quizzes and discussion
11	2+1	a, b, d, e, k	Loading and Data Processing	Lectures	Examination, Quizzes and discussion
12	2+1	a, b, d, e, k	GOTO statements	Lectures	Examination, Quizzes and discussion
13	2+1	a, b, d, e, k	Decision Making statements	Lectures	Examination, Quizzes and discussion

14	2+1	a, b, d, e, k	Looping statements	Lectures	Examination, Quizzes and discussion
15	2+1	a, b, d, e, k	Looping statements - Applications	Lectures	Examination, Quizzes and discussion
16	2+1	a, b, d, e, k	Graphics (Screen, COLOR, PSET)	Lectures	Examination, Quizzes and discussion
17	2+1	a, b, d, e, k	Graphics (LINE, CIRCLE)	Lectures	Examination, Quizzes and discussion
18	2+1	a, b, d, e, k	Graphics - Applications	Lectures	Examination, Quizzes and discussion
19	2+1	a, b, d, e, k	Dimensional Array (One Dimension)	Lectures	Examination, Quizzes and discussion
20	2+1	a, b, d, e, k	Dimensional Array (Two Dimension)	Lectures	Examination, Quizzes and discussion
21	2+1	a, b, d, e, k	Dimensional Array - Applications	Lectures	Examination, Quizzes and discussion
22	2+1	a, b, d, e, k	Reading & Writing to Files	Lectures	Examination, Quizzes and discussion
23	2+1	a, b, d, e, k	Subroutines - Applications	Lectures	Examination, Quizzes and discussion
24	2+1	a, b, d, e, k	FUNCTION building	Lectures	Examination, Quizzes and discussion
25	2+1	a, b, d, e, k	FUNCTION building - Applications	Lectures	Examination, Quizzes and discussion
26	2+1	a, b, d, e, k	Mathematical equations, Statistical Drawing using Software	Lectures	Examination, Quizzes and discussion
٢٧	2+1	a, b, d, e, k	Digital Image Processing	Lectures	Examination, Quizzes and discussion

28	2+1	a, b, d, e, k	Computer Aided Engineering Drawing	Lectures	Examination, Quizzes and discussion
29	2+1	a, b, d, e, k	Introduction to MATLAB	Lectures	Examination, Quizzes and discussion
٣٠	2+1	a, b, d, e, k	Mathematical equations, Statistical Drawing using Software	Lectures	Examination, Quizzes and discussion

12. Infrastructure	
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	**1. BASIC-BASIC: An Introduction to Computer Programming in Basic Language, second edition, James S. Coan, Hayden, 1978** **2. Advanced BASIC, James S. Coan** **3. Engineering Analysis: Interactive Methods and Programs with FORTRAN, QuickBASIC, MATLAB, and Mathematica, Y.C.Pao, CRC Press, 2001**
Special requirements (include for example workshops, periodicals, IT software, websites)	Internet and web sites
Community-based facilities (include for example, guest Lectures , internship , field studies)	

13. Admissions	
Pre-requisites	Pass from last stage
Minimum number of students	No limit
Maximum number of students	No limit

TEMPLATE FOR TYPICAL SITE VISIT CHEDULE

1. The typical site visit schedule is designed for two or three days. It includes pre-arranged meetings. The responsibility for arranging these meetings and fitting the template to the circumstances rests with the Universities Quality Assurance and University Performance departments

2. Site visits will normally commence at 09:00 on day 1. Start times of pre-arranged meetings are indicated. Pre-arranged meetings should not normally last more than one hour. The schedule should not completely fill all times with meetings, but leave space for additional activities by peer reviewers including preparing for meetings, updating notes and records and drafting paragraphs for the draft Programme Review report

Table (1)

Session	Time	Activity
Day 1		
1	09:00	Welcome and introductions; brief introduction to the review (purposes, intended outcomes, use of evidence and self-evaluation report) – Programme Team
2	09:30	Curriculum; discussion with faculty members
3	11:00	Meeting with a group of students
4	12:30	Efficiency: tour of resources
5	14:00	Review panel meeting: scrutiny of additional documentation including sample of students' assessed work
6	15:00	Efficiency: meeting with faculty members
7	16:00	Review panel meeting: review of the evidence and any gaps or matters to follow-up
8	17:00	Meeting with external stakeholders (sample of graduates, employers, other partners)
Day 2		
9	08:45	Review meeting with review chairperson, review coordinator, programme leader: summary of day 1 findings, addressing any gaps, adjust the schedule for day 2 if required
10	09:00	Academic standards: meeting with faculty members
11	10:30	Effectiveness of quality management and assurance: meeting with faculty members
12	12:00	Review panel meeting: review of evidence and any matters still to be addressed
13	14:00	Flexible time to pursue any matters arising
14	14:30	Review panel final meeting: decisions on outcomes and drafting oral feedback
15	16:30	Oral feedback by review chairperson to review coordinator and faculty members
	17:00	Close

TEMPLATE FOR THE FOLLOW-UP PROCESS AND REPORT, AND OUTLINE OF TYPICAL SITE VISIT SCHEDULE FOR FOLLOW-UP

TEMPLATE FOR FOLLOW-UP REPORT

Quality Assurance and Academic Accreditation Directorate / International Accreditation Department.

Institution:

Faculty:

Programme:

Follow-up Report

1. This report presents the findings of the follow-up visit, which took place on / /20__. This is part of the Universities Quality Assurance and University Performance departments arrangements to provide continuing support for the development of internal quality assurance processes and continuing improvement

2. The purposes of the follow-up review are to assess the progress made in the programme since the Programme Review report, and to provide further information and support for the continuing improvement of academic standards and quality of higher education in Iraq.

3. The evidence base used in this follow-up review and report includes:
    a) Self-Evaluation Report for the programme together with supporting information
    b) Improvement plan prepared and implemented since the Programme Review report
    c) Programme Review Report
    d) Higher Education Quality Review Report and institutional strategic plan (if any)
    e) Additional evidence presented during the follow-up visit.

4. The overall conclusions reached as the outcome of the follow-up review are as follows:
    a) The programme (give title) at (give name of institution) has/has not successfully implemented an improvement plan.
    b) Good practice in the indicators demonstrated since the Programme Review site visit includes: (insert)
    c) Matters of particular importance that should be addressed by the institution in its continuing improvement of the programme are: (insert and indicate if they are, or as yet are not, addressed by the improvement plan).

5. The detailed report is provided in Annexure A below.
Annexure A

Name of Institution_____

Date of initial Programme Review site visit_____

Date visited in follow-up   _____

Date of follow-up report   _____

Names of follow-up reviewers   Position/title   Signed

Part 1: The Internal Quality Assurance System in operation				
	Questions	**Yes? (√)**	**Comment**	**Further action required?**
1	Is the programme Self- Evaluation Report complete?			
2	Do the most recent self-evaluation reports indicate the extent to which the criteria in the Framework for Evaluation are met and/or are being addressed?			
3	Is there an improvement plan in place, informed by external and internal review?			
4	Are there any major gaps that appear not to be addressed?			
5	Is progress with the improvement plan monitored?			
6	Are there any major obstacles to the expected achievementof the improvement plan?			
7	What is the institution's estimate of the time needed to complete improvements to the programme?			
8	What is the reviewers' assessment of the time needed to complete improvements to the programme that would demonstrate the indicators?			

Part 2: Progress demonstrated with the indicators			
Indicators (refer to Framework of Evaluation)	Improvement plan points (comment on match with the Programme Review report's recommendations)	New information from follow-up site visit	Overall Conclusion
Curriculum Aims and ILOs Syllabus (content) Progression year on year Teaching and Learning Student assessment			
Efficiency Profile of admitted students Human resources Physical resources Uses made of available resources Student support Ratios of graduation to admitted students			
Academic Standards Clearly articulated standards Use of appropriate benchmarks Achievement of graduates Standards of students' assessed work			
Programme management and Assurance Arrangements for programme management Policies and procedures applied Structured comments collected and used Staff development needs identified and addressed Improvement planning processes working			

CRITERIA FOR A SUCCESSFUL REVIEW AND EVALUATION OF THE PROCESS

CRITERIA FOR A SUCCESSFUL REVIEW

1. The criteria for a successful review that informs the arrangements for Programme Review and its evaluation are as follows:

   i. The programme being reviewed is supported by existing or developing internal systems including specifications and review with a culture of self-evaluation and continuing improvement. These features of internal review provide a sound basis for the external review.

   ii. The timing of the external review is appropriate.

   iii. The profile of the visiting peer review panel matches in broad terms the profile of the academic activities in the institution.

   iv. There is due attention to detail in planning and preparation, by -

      a. The Quality Assurance and Academic Accreditation Directorate applies consistently its procedures for working with the institution and the reviewers and provides appropriate support for the external review as required

      b. The review coordinator: ensures that the evidence base generated by internal review and reporting systems is available on time to the visiting peer reviewers, and any requirements for clarification and supplementary information are satisfied

      c. The institution: provides a self-evaluation report for the programme to be externally reviewed

      d. The peer reviewers: undertake their preparation for the visit including reading the advance documentation and preparing initial commentaries that inform the conduct of the visit

   v. There is consistency in the application of the published review method and the protocols by all participants in a way that respects and supports the mission and philosophy of the overall process for continuing review and continuing improvement.

   vi. Reviewers and representatives of the institution conduct an open dialogue throughout the review that shows mutual respect.

   vii. The judgements reached by the reviewers are clear, based on the evidence available and systematically recorded.

   viii. The review report is produced on time in line with the standard report structure and is confirmed by the institution to be factually accurate.

   ix. The set of conclusions arising from the review are constructive, offering a fair and balanced view of the programme.

   x. The institution is able to benefit from the external review by giving due reflection and consideration to the findings and preparing where appropriate a realistic improvement plan

EVALUATION

2. The Quality Assurance and Academic Accreditation Directorate wishes to establish and implement procedures for the systematic evaluation of all external Programme Reviews arranged by it. The institution, the review chairperson and the peer reviewers will all routinely be asked to evaluate each external review by completing a short questionnaire. The structured comments will be analysed by the Quality Assurance and Academic Accreditation Directorate and where necessary the Quality Assurance and Academic Accreditation Directorate will take action to follow-up any difficulties highlighted. In addition, the Quality Assurance and Academic Accreditation Directorate will collate the structured comments to compile regular summary reports indicating the main features of the review process in practice, including the overall levels of satisfaction expressed by the participants, together with examples of good practice and opportunities for continuing improvement.

GLOSSARY OF TERMS IN PROGRAMME REVIEW

DEFINITIONS OF TERMS USED IN THE PROGRAMME REVIEW HANDBOOK

Some of the terms used in the Handbook and/or used in internal and external review and reporting may have different meanings according to the context in which they are used. To remove possible ambiguities, the following working definitions of the terms are offered.

ADEMIC FIELDS/SUBJECT AREAS/DISCIPLINES

Academic fields categorise recognisable and coherent domains or the scope of study such as Mathematics, Medicine, Engineering and Philosophy. Fields that have a wide scope are often subdivided; for example, Humanities include subjects like History and Literature and Arts may include separate disciplines of Fine Arts and Photography. The curriculum of some programmes may combine academic fields, or may include different subjects and disciplines such as Mathematics in Engineering or Accountancy in Business Administration.

ACADEMIC STANDARDS

Specific standards decided by the institution, and informed by external reference points. They include the minimum or threshold level of knowledge and skills to be gained by the graduates from the programme, and can be used in evaluation and review.

ACCREDITATION

The recognition accorded by an agency or other organisation to either an education programme or to an institution to confirm that it can demonstrate that the programme(s) meet acceptable standards and that the institution has effective systems to ensure the quality and continuing improvement of its academic activities, according to published criteria.

ACTION OR IMPROVEMENT PLANS

Realistic plans for improvement derived from the consideration of available evidence and evaluations; they may be implemented for more than one year, but should be prepared and reviewed annually at each level of courses, programmes and the institution.

ADMITTED STUDENTS

Students registered on a programme, including those accepted holding prior credits for admission after year 1.

BENCHMARK/REFERENCE POINTS

Benchmark statements represent general expectations about the standards of achievement and general attributes to be expected of a graduate in a given academic field or subject. Reference standards may be external or internal. External reference points allow comparison of the academic standards and quality of a programme with equivalent programmes in Iraq and internationally. Internal reference points may be used to compare one academic field with another, or to identify trends over a given time period.

COMMUNITY

A defined segment of wider society served by the institution, as determined in its mission and bylaws. It may be defined geographically or in terms of the range of organizations, groups and individuals engaged in its activities.

COURSE AIMS

Overall course aims should be expressed as the outcomes to be achieved by students completing the course as significant and assessable qualities. They should contribute to the achievement of defined aims within one or more education programmes.

CURRICULUM OR (IN THE PLURAL) CURRICULA

The complete organised learning as designed and managed by an institution for an admitted student, determined by the intended learning outcomes (ILOs) and comprising the content, the arrangements for teaching and learning and assessments of students' achievements together with the access to the range of facilities available within the University and, by arrangement, outside it, including libraries, computers studies, social, sports, internships and field studies.

DIRECTED SELF-LEARNING/INDEPENDENT LEARNING

The active promotion of personal skills included in the curriculum that support the student and graduate to seek, assimilate and learn from a range of structured and unstructured experiences. Methods of promotion include e-learning, personal and autonomous learning and fieldwork, assignments, internships, and reflexive learning. Devices commonly used that support directed self-learning beyond formal teaching lectures include logbooks, self-assessment reports, interactive learning tools or the equivalent.

E-LEARNING

Electronic-based learning using information technology may be the primary or secondary element in material associated with a programme or a course. It may be stand-alone or integrated with other teaching and learning approaches. It may include self-determination of aims, ILOs and materials using self-selection and will usually include self-assessment. It generally increases the levels of autonomy in, and responsibility for, learning. Converting existing texts or lecture notes to a website or pre-recorded media alone is generally not considered to be e-learning.

EXTERNAL EVALUATOR/EVALUATION

An appointment to a specific programme, part of a programme or course(s) by the institution to establish an independent and external professional opinion on the academic standards set and achieved in the examinations for the award of the degree.

FRAMEWORK FOR EVALUATION

The framework for evaluation provides a standard structure for evaluation of programmes. It will form the basis for self-evaluation, the site visit by external peer reviewers and the Programme Review report. It is designed to operate in all academic fields and institutions, and to apply to internal and external reviews.

GENERAL PRECEPTS/BY-LAWS
Principles, by-laws and regulations, which the educational institution must have as part of the policies covering its operations.

HIGHER EDUCATION INSTITUTE (HEI)/INSTITUTION
A Faculty, College or University providing higher education programmes leading to a first university degree (B.Sc. or B.A.) or a higher degree.

INTENDED LEARNING OUTCOMES (ILOS)
The ILOs are the outcome-related definition of knowledge, understanding and skills which the institution intends for its programmes. They should be mission-related, capable of measurement (assessable) and reflect the use of external reference standards at appropriate level.

INTERNAL SYSTEM FOR QUALITY MANAGEMENT AND ASSURANCE
The system adopted by the institution to ensure that its education programmes and contributing elements meet specified needs and are continually reviewed and improved. An outcomes-related system of quality management involves precise specifications for quality from design to delivery; evaluation; the identification of good practice as well as of learning deficiencies and obstacles; performance follow-up; suggestions for development and enhancement; and the systematic review and development of processes for establishing effective policies, strategies and priorities to support continuing improvement.

JOB/LABOUR MARKET
The availability of professional, commercial, research-oriented or other fields of employment that a graduate is qualified to join upon graduation.

MISSION STATEMENT
A brief statement clearly identifying the educational institution's duty and its role in the development of the community; a mission statement may also offer brief supporting statements on the vision, values and strategic objectives of the institution.

PEER REVIEWER
A person who is professionally equal in calibre and with management and/or subject expertise to those delivering the provision, but not from the same institution and without any conflict of interest, who can contribute to the review of an education programme for internal and external quality assurance or for accreditation purposes.

PROGRAMME
For the purpose of Programme Review an education programme is defined as one which admits students who, on successful completion, receive an academic award.

PROGRAMME AIMS

The broad purposes for providing the programme which in turn guide the development and implementation of strategic objectives (to ensure that the aims are met) and ILOs (to ensure that the students work towards attaining the specified outcomes).

PROGRAMME REVIEW

Programme Review applies to all education programmes in all higher education institutions. Where the programme is studied in more than one institution, the whole programme is included in Programme Review. Programme Review in Iraq has three objectives:

1) To provide decision-makers (in the higher education institutions, Quality Assurance and Academic Accreditation Directorate , parents, students, and other stakeholders) with evidence-based judgements on the quality of learning programmes
2) To support the development of internal quality assurance processes with information on emerging good practice and challenges, evaluative comment and continuing improvement
3) To enhance the reputation of Iraq's higher education internationally.

QUALITY ASSURANCE

The institution has the means of assuring that for each education programme, academic standards are defined and achieved in line with equivalent national and international standards, that the quality of the curriculum and related infrastructure are appropriate and fulfil the expectations of the range of stakeholders, that its graduates represent the range of attributes specified and that the organisation is capable of sustained, continuing improvement.

REVIEW COORDINATOR

The nominee of an institution to coordinate a Programme Review to assist in the gathering and interpretation of information and to support the application of published methods of review.

REPORT

The regular reports prepared on the basis of Programme Reviews and evaluations of its education programme.

SELF-EVALUATION

n institution's process of evaluating a programme as part of Programme Review and within an internal system of quality management and assurance.

SITE VISIT

A scheduled visit by external peer reviewers as part of Programme Review. Normally the site visit will be for two or three days. A typical outline timetable is provided in Appendix(1).

SPECIFICATION

The detailed description of the aims, construction and intended outcomes of a programme, and any courses, specific facilities or resources that contribute to it. The specification provides information to design, manage, deliver and review the programme.

STAKEHOLDER

Those organisations, groups or individuals which have a legitimate interest in the educational activities of the institution both in respect of the quality and standards of the education and also in respect of the effectiveness of the systems and processes for assuring the quality. An effective strategic review process will include the key stakeholder groups. The precise range of stakeholder groups and their differentiated interests depend upon the mission of the institution, its range of educational activities and local circumstances. The range is usually defined by a scoping study. Examples of groups with a legitimate interest include current students, graduates, intending students and their parents or family, staff in the institution, the employing community, the relevant Government ministries, the sponsors and other funding organisations and, where appropriate, professional organisations or syndicates.

STRATEGIC OBJECTIVES/PLANS

A collection of institution-specific objectives that are derived from its mission and developed into a realistic plan based on evidence-based evaluations. Objectives concentrate on the means by which an institution seeks to deliver its mission. The plan sets out the matters to be addressed, timeframe, person responsible and estimate of costs, and is accompanied by an implementation plan with arrangements for monitoring the progress and evaluating impact.

STUDENTS' ASSESSMENT

A set of processes, including examinations and other activities conducted by the institution to measure the achievement of the intended learning outcomes of a programme and its courses. Assessments also provide the means by which students are ranked according to their achievement. Diagnostic assessment seeks to determine the existing range of knowledge and skills of a student with a view to constructing an appropriate curriculum. Formative assessment provides information on the student's performance and progress to support further learning, without necessarily counting a grade towards graduation. Summative assessment determines the final level of attainment of the student on the programme or at the end of a course that contributes credits to the programme.

STUDENTS' EVALUATIONS

The systematic gathering of students' opinions on the quality of their programme in a standardized structure together with the analysis and outcomes. Surveys using questionnaires are the most frequently used methods to collect opinions; other mechanisms include websites conferences, panels or focus groups, and representation on councils or other committees.

TEACHING AND LEARNING METHODS

The range of methods used by teachers to help students to achieve the ILOs for the course. Examples include: lectures, small group teaching such as tutorials, seminars and syndicate groups; a case study to teach students how to analyse information and reach a decision; assignments such as writing a review paper for the students to gain the skills of self-learning and presentation; field trips; practical sessions for the students to gain practical skills; and carrying out experiments to train the students to analyse the results, reach specific conclusions and prepare a report, presentation or poster.

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	
2. University Department/Centre	
3. Programme Title	
4. Title of Final Award	
5. Modes of Attendance offered	
6. Accreditation	
7. Other external influences	
8. Date of production/revision of this specification	
9. Aims of the Programme	

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Knowledge and Understanding
  A1.
  A2.
  A3.
  A4.
  A5.
  A6.

B. Subject-specific skills
  B1.
  B2.
  B3.

Teaching and Learning Methods

Assessment methods

C. Thinking Skills
  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

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**

Curriculum Skills Map

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

Programme Learning Outcomes

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 Technology
2. University Department/Centre	Department of Production engineering and Metallurgy
3. Course title/code	Manufacturing processes
4. Programme(s) to which it contributes	Production engineering
5. Modes of Attendance offered	Complete hours
6. Semester/Year	1st & 2nd Semester / year
7. Number of hours tuition (total)	2hr /w theory + 1hr tutorial
8. Date of production/revision of this specification	28/5/2014

9. Aims of the Course

Overview on machining processes fundamentals including the main parameters in each process Turning/component parts/methods of fixing, Turning operation of tapers/thread cutting, Calculations of ratio of gears changing, Applications in turning, Shaping/kind of shaping machines, Mechanical shaping machines, Hydraulic shaping machines, Calculations in cutting speed/return speed/time of cutting/time of return, Drilling / Drilling machines, Types of drilling tools, Problems and solutions/Drilling time, feed, Milling/machines, classification of milling machines Up milling and down milling, Universal dividing head and applications, Methods of dividing, Problems and applications for methods of dividing, Grinding/machines and types, Tools of Grinding/ types /Applications, Methods of manufacturing grinding tools, Problems in calculating cutting speed in grinding, Center less grinding/characteristics/Applications, Accurate machining /dimensional accuracy, Surface finish, Polishing/Lapping for Gears, Gears/Kinds, Methods of manufacturing Gears and engineering characteristics, Problems and solutions for calculating pitch diameter/pitch/thickness of tooth/number of teeth, Broaching/Machines and types, Broaching tools and characteristics Methods of measuring.

10· Learning Outcomes, Teaching ,Learning and Assessment Methode

A- Knowledge and Understanding
A1. Text books
A2. Laboratory experiments
A3. Software programs
A4. Internet web sites
A5. Other papers and journals

B. Subject-specific skills
B1.
B2.
B3.

Teaching and Learning Methods

1- Lectures and tutorials
2- Experiments at manufacturing processes lab
3- Software and programs
4- Discussion with groups
5- Home works

Assessment methods

1- Reports
2- Additional problems
3- Quizzes
4- Examination

C. Thinking Skills
   Video and slide show of advanced techniques and other details

Teaching and Learning Methods

1- The use of office programs and its advances
2- Make use of web sites

Assessment methods

1- Weekly quizzes
2- Monthly exams
3- 1st term exam, 2nd term exam
4- Final exam
5- Laboratory exam and reports

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

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
			11. Course Structure		
1	2+1	a, b, d, e, k	Turning/component parts/methods of fixing	Lectures	Examination, Quizzes and discussion
2	2+1	a, b, d, e, k	Turning operation of tapers/thread cutting	Lectures	Examination, Quizzes and discussion
3	2+1	a, b, d, e, k	Calculations of ratio of gears changing	Lectures	Examination, Quizzes and discussion
4	2+1	a, b, d, e, k	Applications in turning	Lectures	Examination, Quizzes and discussion
5	2+1	a, b, d, e, k	Shaping/kind of shaping machines	Lectures	Examination, Quizzes and discussion
6	2+1	a, b, d, e, k	Mechanical shaping machines	Lectures	Examination, Quizzes and discussion
7	2+1	a, b, d, e, k	Hydraulic shaping machines	Lectures	Examination, Quizzes and discussion
8	2+1	a, b, d, e, k	Calculations in cutting speed/return speed/time of cutting/time of return	Lectures	Examination, Quizzes and discussion
9	2+1	a, b, d, e, k	Drilling / Drilling machines	Lectures	Examination, Quizzes and discussion
10	2+1	a, b, d, e, k	Types of drilling tools	Lectures	Examination, Quizzes and discussion
11	2+1	a, b, d, e, k	Problems and solutions/Drilling time, feed	Lectures	Examination, Quizzes and discussion
12	2+1	a, b, d, e, k	Milling/machines, classification of milling machines	Lectures	Examination, Quizzes and discussion
13	2+1	a, b, d, e, k	Up milling and down milling	Lectures	Examination, Quizzes and discussion

14	2+1	**a, b, d, e, k**	Universal dividing head and applications	Lectures	Examination, Quizzes and discussion
15	2+1	**a, b, d, e, k**	Methods of dividing	Lectures	Examination, Quizzes and discussion
16	2+1	**a, b, d, e, k**	Problems and applications for methods of dividing	Lectures	Examination, Quizzes and discussion
17	2+1	**a, b, d, e, k**	Grinding/machines and types	Lectures	Examination, Quizzes and discussion
18	2+1	**a, b, d, e, k**	Tools of Grinding/ types /Applications	Lectures	Examination, Quizzes and discussion
19	2+1	**a, b, d, e, k**	Methods of manufacturing grinding tools	Lectures	Examination, Quizzes and discussion
20	2+1	**a, b, d, e, k**	Problems in calculating cutting speed in grinding	Lectures	Examination, Quizzes and discussion
21	2+1	**a, b, d, e, k**	Center less grinding/characteristics/Applications	Lectures	Examination, Quizzes and discussion
22	2+1	**a, b, d, e, k**	Accurate machining /dimensional accuracy	Lectures	Examination, Quizzes and discussion
23	2+1	**a, b, d, e, k**	Surface finish	Lectures	Examination, Quizzes and discussion
24	2+1	**a, b, d, e, k**	Polishing/Lapping for Gears	Lectures	Examination, Quizzes and discussion
25	2+1	**a, b, d, e, k**	Gears/Kinds	Lectures	Examination, Quizzes and discussion
26	2+1	**a, b, d, e, k**	Methods of manufacturing Gears and engineering characteristics	Lectures	Examination, Quizzes and discussion
٢٧	2+1	**a, b, d, e, k**	Problems and solutions for calculating pitch diameter/pitch/thickness of tooth/number of teeth	Lectures	Examination, Quizzes and discussion

28	2+1	**a, b, d, e, k**	Broaching/Machines and types	Lectures	Examination, Quizzes and discussion
29	2+1	**a, b, d, e, k**	Broaching tools and characteristics	Lectures	Examination, Quizzes and discussion
٣٠	2+1	**a, b, d, e, k**	Methods of measuring	Lectures	Examination, Quizzes and discussion

12. Infrastructure	
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	1. Manufacturing Technology M. Mahajan 2. Machine Tools (workshop Technology) R.N. Patta.
Special requirements (include for example workshops, periodicals, IT software, websites)	Internet and web sites
Community-based facilities (include for example, guest Lectures , internship , field studies)	

13. Admissions	
Pre-requisites	Pass from last stage
Minimum number of students	No limit
Maximum number of students	No limit

TEMPLATE FOR TYPICAL SITE VISIT CHEDULE

1. The typical site visit schedule is designed for two or three days. It includes pre-arranged meetings. The responsibility for arranging these meetings and fitting the template to the circumstances rests with the Universities Quality Assurance and University Performance departments

2. Site visits will normally commence at 09:00 on day 1. Start times of pre-arranged meetings are indicated. Pre-arranged meetings should not normally last more than one hour. The schedule should not completely fill all times with meetings, but leave space for additional activities by peer reviewers including preparing for meetings, updating notes and records and drafting paragraphs for the draft Programme Review report

Table (1)

Session	Time	Activity
Day 1		
1	09:00	Welcome and introductions; brief introduction to the review (purposes, intended outcomes, use of evidence and self-evaluation report) – Programme Team
2	09:30	Curriculum; discussion with faculty members
3	11:00	Meeting with a group of students
4	12:30	Efficiency: tour of resources
5	14:00	Review panel meeting: scrutiny of additional documentation including sample of students' assessed work
6	15:00	Efficiency: meeting with faculty members
7	16:00	Review panel meeting: review of the evidence and any gaps or matters to follow-up
8	17:00	Meeting with external stakeholders (sample of graduates, employers, other partners)
Day 2		
9	08:45	Review meeting with review chairperson, review coordinator, programme leader: summary of day 1 findings, addressing any gaps, adjust the schedule for day 2 if required
10	09:00	Academic standards: meeting with faculty members
11	10:30	Effectiveness of quality management and assurance: meeting with faculty members
12	12:00	Review panel meeting: review of evidence and any matters still to be addressed
13	14:00	Flexible time to pursue any matters arising
14	14:30	Review panel final meeting: decisions on outcomes and drafting oral feedback
15	16:30	Oral feedback by review chairperson to review coordinator and faculty members
	17:00	Close

TEMPLATE FOR THE FOLLOW-UP PROCESS AND REPORT, AND OUTLINE OF TYPICAL SITE VISIT SCHEDULE FOR FOLLOW-UP

TEMPLATE FOR FOLLOW-UP REPORT

Quality Assurance and Academic Accreditation Directorate / International Accreditation Department.

Institution:

Faculty:

Programme:

Follow-up Report

1. This report presents the findings of the follow-up visit, which took place on / /20__. This is part of the Universities Quality Assurance and University Performance departments arrangements to provide continuing support for the development of internal quality assurance processes and continuing improvement

2. The purposes of the follow-up review are to assess the progress made in the programme since the Programme Review report, and to provide further information and support for the continuing improvement of academic standards and quality of higher education in Iraq.

3. The evidence base used in this follow-up review and report includes:
   a) Self-Evaluation Report for the programme together with supporting information
   b) Improvement plan prepared and implemented since the Programme Review report
   c) Programme Review Report
   d) Higher Education Quality Review Report and institutional strategic plan (if any)
   e) Additional evidence presented during the follow-up visit.

4. The overall conclusions reached as the outcome of the follow-up review are as follows:
   a) The programme (give title) at (give name of institution) has/has not successfully implemented an improvement plan.
   b) Good practice in the indicators demonstrated since the Programme Review site visit includes: (insert)
   c) Matters of particular importance that should be addressed by the institution in its continuing improvement of the programme are: (insert and indicate if they are, or as yet are not, addressed by the improvement plan).

5. The detailed report is provided in Annexure A below.

Annexure A

Name of Institution_____

Date of initial Programme Review site visit_____

Date visited in follow-up   _____

Date of follow-up report   _____

Names of follow-up reviewers   Position/title   Signed

	Part 1: The Internal Quality Assurance System in operation			
	Questions	**Yes? (√)**	**Comment**	**Further action required?**
1	Is the programme Self- Evaluation Report complete?			
2	Do the most recent self-evaluation reports indicate the extent to which the criteria in the Framework for Evaluation are met and/or are being addressed?			
3	Is there an improvement plan in place, informed by external and internal review?			
4	Are there any major gaps that appear not to be addressed?			
5	Is progress with the improvement plan monitored?			
6	Are there any major obstacles to the expected achievementof the improvement plan?			
7	What is the institution's estimate of the time needed to complete improvements to the programme?			
8	What is the reviewers' assessment of the time needed to complete improvements to the programme that would demonstrate the indicators?			

Part 2: Progress demonstrated with the indicators			
Indicators (refer to Framework of Evaluation)	Improvement plan points (comment on match with the Programme Review report's recommendations)	New information from follow-up site visit	Overall Conclusion
Curriculum Aims and ILOs Syllabus (content) Progression year on year Teaching and Learning Student assessment			
Efficiency Profile of admitted students Human resources Physical resources Uses made of available resources Student support Ratios of graduation to admitted students			
Academic Standards Clearly articulated standards Use of appropriate benchmarks Achievement of graduates Standards of students' assessed work			
Programme management and Assurance Arrangements for programme management Policies and procedures applied Structured comments collected and used Staff development needs identified and addressed Improvement planning processes working			

CRITERIA FOR A SUCCESSFUL REVIEW AND EVALUATION OF THE PROCESS

CRITERIA FOR A SUCCESSFUL REVIEW

1. The criteria for a successful review that informs the arrangements for Programme Review and its evaluation are as follows:

   i. The programme being reviewed is supported by existing or developing internal systems including specifications and review with a culture of self-evaluation and continuing improvement. These features of internal review provide a sound basis for the external review.

   ii. The timing of the external review is appropriate.

   iii. The profile of the visiting peer review panel matches in broad terms the profile of the academic activities in the institution.

   iv. There is due attention to detail in planning and preparation, by -

      a. The Quality Assurance and Academic Accreditation Directorate applies consistently its procedures for working with the institution and the reviewers and provides appropriate support for the external review as required

      b. The review coordinator: ensures that the evidence base generated by internal review and reporting systems is available on time to the visiting peer reviewers, and any requirements for clarification and supplementary information are satisfied

      c. The institution: provides a self-evaluation report for the programme to be externally reviewed

      d. The peer reviewers: undertake their preparation for the visit including reading the advance documentation and preparing initial commentaries that inform the conduct of the visit

   v. There is consistency in the application of the published review method and the protocols by all participants in a way that respects and supports the mission and philosophy of the overall process for continuing review and continuing improvement.

   vi. Reviewers and representatives of the institution conduct an open dialogue throughout the review that shows mutual respect.

   vii. The judgements reached by the reviewers are clear, based on the evidence available and systematically recorded.

   viii. The review report is produced on time in line with the standard report structure and is confirmed by the institution to be factually accurate.

   ix. The set of conclusions arising from the review are constructive, offering a fair and balanced view of the programme.

   x. The institution is able to benefit from the external review by giving due reflection and consideration to the findings and preparing where appropriate a realistic improvement plan

EVALUATION

2. The Quality Assurance and Academic Accreditation Directorate wishes to establish and implement procedures for the systematic evaluation of all external Programme Reviews arranged by it. The institution, the review chairperson and the peer reviewers will all routinely be asked to evaluate each external review by completing a short questionnaire. The structured comments will be analysed by the Quality Assurance and Academic Accreditation Directorate and where necessary the Quality Assurance and Academic Accreditation Directorate will take action to follow-up any difficulties highlighted. In addition, the Quality Assurance and Academic Accreditation Directorate will collate the structured comments to compile regular summary reports indicating the main features of the review process in practice, including the overall levels of satisfaction expressed by the participants, together with examples of good practice and opportunities for continuing improvement.

GLOSSARY OF TERMS IN PROGRAMME REVIEW

DEFINITIONS OF TERMS USED IN THE PROGRAMME REVIEW HANDBOOK

Some of the terms used in the Handbook and/or used in internal and external review and reporting may have different meanings according to the context in which they are used. To remove possible ambiguities, the following working definitions of the terms are offered.

ADEMIC FIELDS/SUBJECT AREAS/DISCIPLINES

Academic fields categorise recognisable and coherent domains or the scope of study such as Mathematics, Medicine, Engineering and Philosophy. Fields that have a wide scope are often subdivided; for example, Humanities include subjects like History and Literature and Arts may include separate disciplines of Fine Arts and Photography. The curriculum of some programmes may combine academic fields, or may include different subjects and disciplines such as Mathematics in Engineering or Accountancy in Business Administration.

ACADEMIC STANDARDS

Specific standards decided by the institution, and informed by external reference points. They include the minimum or threshold level of knowledge and skills to be gained by the graduates from the programme, and can be used in evaluation and review.

ACCREDITATION

The recognition accorded by an agency or other organisation to either an education programme or to an institution to confirm that it can demonstrate that the programme(s) meet acceptable standards and that the institution has effective systems to ensure the quality and continuing improvement of its academic activities, according to published criteria.

ACTION OR IMPROVEMENT PLANS

Realistic plans for improvement derived from the consideration of available evidence and evaluations; they may be implemented for more than one year, but should be prepared and reviewed annually at each level of courses, programmes and the institution.

ADMITTED STUDENTS

Students registered on a programme, including those accepted holding prior credits for admission after year 1.

BENCHMARK/REFERENCE POINTS

Benchmark statements represent general expectations about the standards of achievement and general attributes to be expected of a graduate in a given academic field or subject. Reference standards may be external or internal. External reference points allow comparison of the academic standards and quality of a programme with equivalent programmes in Iraq and internationally. Internal reference points may be used to compare one academic field with another, or to identify trends over a given time period.

COMMUNITY

A defined segment of wider society served by the institution, as determined in its mission and bylaws. It may be defined geographically or in terms of the range of organizations, groups and individuals engaged in its activities.

COURSE AIMS

Overall course aims should be expressed as the outcomes to be achieved by students completing the course as significant and assessable qualities. They should contribute to the achievement of defined aims within one or more education programmes.

CURRICULUM OR (IN THE PLURAL) CURRICULA

The complete organised learning as designed and managed by an institution for an admitted student, determined by the intended learning outcomes (ILOs) and comprising the content, the arrangements for teaching and learning and assessments of students' achievements together with the access to the range of facilities available within the University and, by arrangement, outside it, including libraries, computers studies, social, sports, internships and field studies.

DIRECTED SELF-LEARNING/INDEPENDENT LEARNING

The active promotion of personal skills included in the curriculum that support the student and graduate to seek, assimilate and learn from a range of structured and unstructured experiences. Methods of promotion include e-learning, personal and autonomous learning and fieldwork, assignments, internships, and reflexive learning. Devices commonly used that support directed self-learning beyond formal teaching lectures include logbooks, self-assessment reports, interactive learning tools or the equivalent.

E-LEARNING

Electronic-based learning using information technology may be the primary or secondary element in material associated with a programme or a course. It may be stand-alone or integrated with other teaching and learning approaches. It may include self-determination of aims, ILOs and materials using self-selection and will usually include self-assessment. It generally increases the levels of autonomy in, and responsibility for, learning. Converting existing texts or lecture notes to a website or pre-recorded media alone is generally not considered to be e-learning.

EXTERNAL EVALUATOR/EVALUATION

An appointment to a specific programme, part of a programme or course(s) by the institution to establish an independent and external professional opinion on the academic standards set and achieved in the examinations for the award of the degree.

FRAMEWORK FOR EVALUATION

The framework for evaluation provides a standard structure for evaluation of programmes. It will form the basis for self-evaluation, the site visit by external peer reviewers and the Programme Review report. It is designed to operate in all academic fields and institutions, and to apply to internal and external reviews.

GENERAL PRECEPTS/BY-LAWS
Principles, by-laws and regulations, which the educational institution must have as part of the policies covering its operations.

HIGHER EDUCATION INSTITUTE (HEI)/INSTITUTION
A Faculty, College or University providing higher education programmes leading to a first university degree (B.Sc. or B.A.) or a higher degree.

INTENDED LEARNING OUTCOMES (ILOS)
The ILOs are the outcome-related definition of knowledge, understanding and skills which the institution intends for its programmes. They should be mission-related, capable of measurement (assessable) and reflect the use of external reference standards at appropriate level.

INTERNAL SYSTEM FOR QUALITY MANAGEMENT AND ASSURANCE
The system adopted by the institution to ensure that its education programmes and contributing elements meet specified needs and are continually reviewed and improved. An outcomes-related system of quality management involves precise specifications for quality from design to delivery; evaluation; the identification of good practice as well as of learning deficiencies and obstacles; performance follow-up; suggestions for development and enhancement; and the systematic review and development of processes for establishing effective policies, strategies and priorities to support continuing improvement.

JOB/LABOUR MARKET
The availability of professional, commercial, research-oriented or other fields of employment that a graduate is qualified to join upon graduation.

MISSION STATEMENT
A brief statement clearly identifying the educational institution's duty and its role in the development of the community; a mission statement may also offer brief supporting statements on the vision, values and strategic objectives of the institution.

PEER REVIEWER
A person who is professionally equal in calibre and with management and/or subject expertise to those delivering the provision, but not from the same institution and without any conflict of interest, who can contribute to the review of an education programme for internal and external quality assurance or for accreditation purposes.

PROGRAMME
For the purpose of Programme Review an education programme is defined as one which admits students who, on successful completion, receive an academic award.

PROGRAMME AIMS

The broad purposes for providing the programme which in turn guide the development and implementation of strategic objectives (to ensure that the aims are met) and ILOs (to ensure that the students work towards attaining the specified outcomes).

PROGRAMME REVIEW

Programme Review applies to all education programmes in all higher education institutions. Where the programme is studied in more than one institution, the whole programme is included in Programme Review. Programme Review in Iraq has three objectives:

1) To provide decision-makers (in the higher education institutions, Quality Assurance and Academic Accreditation Directorate , parents, students, and other stakeholders) with evidence-based judgements on the quality of learning programmes
2) To support the development of internal quality assurance processes with information on emerging good practice and challenges, evaluative comment and continuing improvement
3) To enhance the reputation of Iraq's higher education internationally.

QUALITY ASSURANCE

The institution has the means of assuring that for each education programme, academic standards are defined and achieved in line with equivalent national and international standards, that the quality of the curriculum and related infrastructure are appropriate and fulfil the expectations of the range of stakeholders, that its graduates represent the range of attributes specified and that the organisation is capable of sustained, continuing improvement.

REVIEW COORDINATOR

The nominee of an institution to coordinate a Programme Review to assist in the gathering and interpretation of information and to support the application of published methods of review.

REPORT

The regular reports prepared on the basis of Programme Reviews and evaluations of its education programme.

SELF-EVALUATION

n institution's process of evaluating a programme as part of Programme Review and within an internal system of quality management and assurance.

SITE VISIT

A scheduled visit by external peer reviewers as part of Programme Review. Normally the site visit will be for two or three days. A typical outline timetable is provided in Appendix(1).

SPECIFICATION

The detailed description of the aims, construction and intended outcomes of a programme, and any courses, specific facilities or resources that contribute to it. The specification provides information to design, manage, deliver and review the programme.

STAKEHOLDER

Those organisations, groups or individuals which have a legitimate interest in the educational activities of the institution both in respect of the quality and standards of the education and also in respect of the effectiveness of the systems and processes for assuring the quality. An effective strategic review process will include the key stakeholder groups. The precise range of stakeholder groups and their differentiated interests depend upon the mission of the institution, its range of educational activities and local circumstances. The range is usually defined by a scoping study. Examples of groups with a legitimate interest include current students, graduates, intending students and their parents or family, staff in the institution, the employing community, the relevant Government ministries, the sponsors and other funding organisations and, where appropriate, professional organisations or syndicates.

STRATEGIC OBJECTIVES/PLANS

A collection of institution-specific objectives that are derived from its mission and developed into a realistic plan based on evidence-based evaluations. Objectives concentrate on the means by which an institution seeks to deliver its mission. The plan sets out the matters to be addressed, timeframe, person responsible and estimate of costs, and is accompanied by an implementation plan with arrangements for monitoring the progress and evaluating impact.

STUDENTS'ASSESSMENT

A set of processes, including examinations and other activities conducted by the institution to measure the achievement of the intended learning outcomes of a programme and its courses. Assessments also provide the means by which students are ranked according to their achievement. Diagnostic assessment seeks to determine the existing range of knowledge and skills of a student with a view to constructing an appropriate curriculum. Formative assessment provides information on the student's performance and progress to support further learning, without necessarily counting a grade towards graduation. Summative assessment determines the final level of attainment of the student on the programme or at the end of a course that contributes credits to the programme.

STUDENTS' EVALUATIONS

The systematic gathering of students'opinions on the quality of their programme in a standardized structure together with the analysis and outcomes. Surveys using questionnaires are the most frequently used methods to collect opinions; other mechanisms include websites conferences, panels or focus groups, and representation on councils or other committees.

TEACHING AND LEARNING METHODS

The range of methods used by teachers to help students to achieve the ILOs for the course.
Examples include: lectures, small group teaching such as tutorials, seminars and syndicate groups; a case study to teach students how to analyse information and reach a decision; assignments such as writing a review paper for the students to gain the skills of self-learning and presentation; field trips; practical sessions for the students to gain practical skills; and carrying out experiments to train the students to analyse the results, reach specific conclusions and prepare a report, presentation or poster.

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	
2. University Department/Centre	
3. Programme Title	
4. Title of Final Award	
5. Modes of Attendance offered	
6. Accreditation	
7. Other external influences	
8. Date of production/revision of this specification	
9. Aims of the Programme	

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Knowledge and Understanding
  A1.
  A2.
  A3.
  A4.
  A5.
  A6.

B. Subject-specific skills
  B1.
  B2.
  B3.

Teaching and Learning Methods
Assessment methods

C. Thinking Skills
  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

COURSE SPECIFICATION

This Course Specification provides the main features of the engineering thermodynamic and heat transfer for the students of the 2nd year in the department of production engineering & metallurgy. The principle of the course to teach the students the basic of engineering thermodynamics and heat transfer and to give them thought how these materials is applied in engineering practice.

1. Teaching Institution	University of Technology
2. University Department/Centre	Department of Production Engineering & Metallurgy
3. Course title/code	Engineering thermodynamics and heat transfer
4. Programme(s) to which it contributes	Production Engineering
5. Modes of Attendance offered	Complete hours
6. Semester/Year	1st & 2nd Semester / Year
7. Number of hours tuition (total)	2hr/w theory & 1hr tutorial 3hr * 30 w = 90 hr/Year
8. Date of production/revision of this specification	18/5/2014

9. Aims of the Course
   The aims which can be achieved during teaching this Course program are as follows:
Introduce the fundamental concept of engineering thermodynamic and heat transfer and Learning the energy transformation involving work, heat and the properties at matters and law of mechanics and understanding various form of energy & mechanics of energy transfer and balance and different types of cycles such as Carnot Cycle, The constant volume Cycle, The constant pressure Cycle, The Diesel Cycle, The Dual Combustion Cycle.

10· Learning Outcomes, Teaching ,Learning and Assessment Methode

A- Knowledge and Understanding
Enabling students to get the knowledge and understanding of theoretical principles of thermodynamic and heat transfer to present a wealth engineering examples to give the students how the matters is applied in engineering practices and practical examples and figures to help the students develop the necessary knowledge and skills.

B. Subject-specific skills
B1. Lectures
B2. Tutorial and preforming some experiments in the laboratories

Teaching and Learning Methods

1- Lectures and explanation.
2- Exercises and discussions.

Assessment methods

1- Examinations
2- Quizzes.
3- Exercises and discussion.
4- Home work.

C. Thinking Skills
C1. Repots
C2. Work as group and survey

Teaching and Learning Methods

1- Literatures
2- Tutorials and experiments

Assessment methods
1- Test 1.   2- Test 2.   3- Quizzes and assignments.   4- Final Examination.

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

Solution of different problems as applications

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
11. Course Structure					
1	2+1	**a, c, e, d, h, k**	**Introduction**	Lectures	Examination, Quizzes and discussion
2	2+1	**a, c, e, d, h, k**	properties/ units	Lectures	Examination, Quizzes and discussion
3	2+1	**a, c, e, d, h, k**	Gas law	Lectures	Examination, Quizzes and discussion
4	2+1	**a, c, e, d, h, k**	First law of thermodynamic	Lectures	Examination, Quizzes and discussion
5	2+1	**a, c, e, d, h, k**	Energy equation for non – flow system	Lectures	Examination, Quizzes and discussion
6	2+1	**a, c, e, d, h, k**	Reversible thermodynamic process	Lectures	Examination, Quizzes and discussion
7	2+1	**a, c, e, d, h, k**	Energy equation for flow system	Lectures	Examination, Quizzes and discussion
8	2+1	**a, c, e, d, h, k**	Second law of thermodynamic	Lectures	Examination, Quizzes and discussion
9	2+1	**a, c, e, d, h, k**	Entropy	Lectures	Examination, Quizzes and discussion
10	2+1	**a, c, e, d, h, k**	Steam	Lectures	Examination, Quizzes and discussion
11	2+1	**a, c, e, d, h, k**	steam engine	Lectures	Examination, Quizzes and discussion
12	2+1	**a, c, e, d, h, k**	Examples	Lectures	Examination, Quizzes and discussion
13	2+1	**a, c, e, d, h, k**	Heat cycle	Lectures	Examination, Quizzes and discussion

				Lectures	Examination, Quizzes and discussion
14	2+1	**a, c, e, d, h, k**	The Carnot Cycle	Lectures	Examination, Quizzes and discussion
15	2+1	**a, c, e, d, h, k**	The constant volume Cycle	Lectures	Examination, Quizzes and discussion
16	2+1	**a, c, e, d, h, k**	The constant pressure Cycle	Lectures	Examination, Quizzes and discussion
17	2+1	**a, c, e, d, h, k**	The Diesel Cycle	Lectures	Examination, Quizzes and discussion
18	2+1	**a, c, e, d, h, k**	The Dual Combustion Cycle	Lectures	Examination, Quizzes and discussion
19	2+1	**a, c, e, d, h, k**	Examples	Lectures	Examination, Quizzes and discussion
20	2+1	**a, c, e, d, h, k**	Introduction to heat transfer	Lectures	Examination, Quizzes and discussion
21	2+1	**a, c, e, d, h, k**	Introduction to heat transfer	Lectures	Examination, Quizzes and discussion
22	2+1	**a, c, e, d, h, k**	Heat transfer by conduction through wall	Lectures	Examination, Quizzes and discussion
23	2+1	**a, c, e, d, h, k**	Heat transfer by conduction through multi layer wall	Lectures	Examination, Quizzes and discussion
24	2+1	**a, c, e, d, h, k**	Heat transfer by conduction through cylinder	Lectures	Examination, Quizzes and discussion
25	2+1	**a, c, e, d, h, k**	Heat transfer by conduction through multi layer cylinder	Lectures	Examination, Quizzes and discussion
26	2+1	**a, c, e, d, h, k**	Convention heat transfer	Lectures	Examination, Quizzes and discussion

				Lectures	Examination, Quizzes and discussion
27	2+1	**a, c, e, d, h, k**	Convention heat transfer	Lectures	Examination, Quizzes and discussion
28	2+1	**a, c, e, d, h, k**	Radiation heat transfer	Lectures	Examination, Quizzes and discussion
29	2+1	**a, c, e, d, h, k**	Radiation heat transfer	Lectures	Examination, Quizzes and discussion
30	2+1	**a, c, e, d, h, k**	Examples	Lectures	Examination, Quizzes and discussion

12. Infrastructure	
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	1- F.J. Wallac & W.A. linning [basic engineering thermodynamic]. 2- R.S. Khrnu. [Text book of engineering thermodynamics]. 3- J.P.Holman [heat transfer].
Special requirements (include for example workshops, periodicals, IT software, websites)	Internet and web sites
Community-based facilities (include for example, guest Lectures , internship , field studies)	Lectures

13. Admissions	
Pre-requisites	Pass from last stage (year)
Minimum number of students	No limits
Maximum number of students	No limits

TEMPLATE FOR TYPICAL SITE VISIT CHEDULE

1. The typical site visit schedule is designed for two or three days. It includes pre-arranged meetings. The responsibility for arranging these meetings and fitting the template to the circumstances rests with the Universities Quality Assurance and University Performance departments

2. Site visits will normally commence at 09:00 on day 1. Start times of pre-arranged meetings are indicated. Pre-arranged meetings should not normally last more than one hour. The schedule should not completely fill all times with meetings, but leave space for additional activities by peer reviewers including preparing for meetings, updating notes and records and drafting paragraphs for the draft Programme Review report

Table (1)

Session	Time	Activity
Day 1		
1	09:00	Welcome and introductions; brief introduction to the review (purposes, intended outcomes, use of evidence and self-evaluation report) – Programme Team
2	09:30	Curriculum; discussion with faculty members
3	11:00	Meeting with a group of students
4	12:30	Efficiency: tour of resources
5	14:00	Review panel meeting: scrutiny of additional documentation including sample of students' assessed work
6	15:00	Efficiency: meeting with faculty members
7	16:00	Review panel meeting: review of the evidence and any gaps or matters to follow-up
8	17:00	Meeting with external stakeholders (sample of graduates, employers, other partners)
Day 2		
9	08:45	Review meeting with review chairperson, review coordinator, programme leader: summary of day 1 findings, addressing any gaps, adjust the schedule for day 2 if required
10	09:00	Academic standards: meeting with faculty members
11	10:30	Effectiveness of quality management and assurance: meeting with faculty members
12	12:00	Review panel meeting: review of evidence and any matters still to be addressed
13	14:00	Flexible time to pursue any matters arising
14	14:30	Review panel final meeting: decisions on outcomes and drafting oral feedback
15	16:30	Oral feedback by review chairperson to review coordinator and faculty members
	17:00	Close

TEMPLATE FOR THE FOLLOW-UP PROCESS AND REPORT, AND OUTLINE OF TYPICAL SITE VISIT SCHEDULE FOR FOLLOW-UP

TEMPLATE FOR FOLLOW-UP REPORT

Quality Assurance and Academic Accreditation Directorate / International Accreditation Department.

Institution:

Faculty:

Programme:

Follow-up Report

1. This report presents the findings of the follow-up visit, which took place on / /20__. This is part of the Universities Quality Assurance and University Performance departments arrangements to provide continuing support for the development of internal quality assurance processes and continuing improvement

2. The purposes of the follow-up review are to assess the progress made in the programme since the Programme Review report, and to provide further information and support for the continuing improvement of academic standards and quality of higher education in Iraq.

3. The evidence base used in this follow-up review and report includes:
   a) Self-Evaluation Report for the programme together with supporting information
   b) Improvement plan prepared and implemented since the Programme Review report
   c) Programme Review Report
   d) Higher Education Quality Review Report and institutional strategic plan (if any)
   e) Additional evidence presented during the follow-up visit.

4. The overall conclusions reached as the outcome of the follow-up review are as follows:
   a) The programme (give title) at (give name of institution) has/has not successfully implemented an improvement plan.
   b) Good practice in the indicators demonstrated since the Programme Review site visit includes: (insert)
   c) Matters of particular importance that should be addressed by the institution in its continuing improvement of the programme are: (insert and indicate if they are, or as yet are not, addressed by the improvement plan).

5. The detailed report is provided in Annexure A below.
Annexure A

Name of Institution_____

Date of initial Programme Review site visit_____

Date visited in follow-up   _____

Date of follow-up report   _____

Names of follow-up reviewers   Position/title   Signed

Part 1: The Internal Quality Assurance System in operation				
	Questions	**Yes? (√)**	**Comment**	**Further action required?**
1	Is the programme Self- Evaluation Report complete?			
2	Do the most recent self-evaluation reports indicate the extent to which the criteria in the Framework for Evaluation are met and/or are being addressed?			
3	Is there an improvement plan in place, informed by external and internal review?			
4	Are there any major gaps that appear not to be addressed?			
5	Is progress with the improvement plan monitored?			
6	Are there any major obstacles to the expected achievementof the improvement plan?			
7	What is the institution's estimate of the time needed to complete improvements to the programme?			
8	What is the reviewers' assessment of the time needed to complete improvements to the programme that would demonstrate the indicators?			

Part 2: Progress demonstrated with the indicators			
Indicators (refer to Framework of Evaluation)	Improvement plan points (comment on match with the Programme Review report's recommendations)	New information from follow-up site visit	Overall Conclusion
Curriculum Aims and ILOs Syllabus (content) Progression year on year Teaching and Learning Student assessment			
Efficiency Profile of admitted students Human resources Physical resources Uses made of available resources Student support Ratios of graduation to admitted students			
Academic Standards Clearly articulated standards Use of appropriate benchmarks Achievement of graduates Standards of students' assessed work			
Programme management and Assurance Arrangements for programme management Policies and procedures applied Structured comments collected and used Staff development needs identified and addressed Improvement planning processes working			

CRITERIA FOR A SUCCESSFUL REVIEW AND EVALUATION OF THE PROCESS

CRITERIA FOR A SUCCESSFUL REVIEW

1. The criteria for a successful review that informs the arrangements for Programme Review and its evaluation are as follows:

    i. The programme being reviewed is supported by existing or developing internal systems including specifications and review with a culture of self-evaluation and continuing improvement. These features of internal review provide a sound basis for the external review.

    ii. The timing of the external review is appropriate.

    iii. The profile of the visiting peer review panel matches in broad terms the profile of the academic activities in the institution.

    iv. There is due attention to detail in planning and preparation, by -

        a. The Quality Assurance and Academic Accreditation Directorate applies consistently its procedures for working with the institution and the reviewers and provides appropriate support for the external review as required

        b. The review coordinator: ensures that the evidence base generated by internal review and reporting systems is available on time to the visiting peer reviewers, and any requirements for clarification and supplementary information are satisfied

        c. The institution: provides a self-evaluation report for the programme to be externally reviewed

        d. The peer reviewers: undertake their preparation for the visit including reading the advance documentation and preparing initial commentaries that inform the conduct of the visit

    v. There is consistency in the application of the published review method and the protocols by all participants in a way that respects and supports the mission and philosophy of the overall process for continuing review and continuing improvement.

    vi. Reviewers and representatives of the institution conduct an open dialogue throughout the review that shows mutual respect.

    vii. The judgements reached by the reviewers are clear, based on the evidence available and systematically recorded.

    viii. The review report is produced on time in line with the standard report structure and is confirmed by the institution to be factually accurate.

    ix. The set of conclusions arising from the review are constructive, offering a fair and balanced view of the programme.

    x. The institution is able to benefit from the external review by giving due reflection and consideration to the findings and preparing where appropriate a realistic improvement plan

EVALUATION

2. The Quality Assurance and Academic Accreditation Directorate wishes to establish and implement procedures for the systematic evaluation of all external Programme Reviews arranged by it. The institution, the review chairperson and the peer reviewers will all routinely be asked to evaluate each external review by completing a short questionnaire. The structured comments will be analysed by the Quality Assurance and Academic Accreditation Directorate and where necessary the Quality Assurance and Academic Accreditation Directorate will take action to follow-up any difficulties highlighted. In addition, the Quality Assurance and Academic Accreditation Directorate will collate the structured comments to compile regular summary reports indicating the main features of the review process in practice, including the overall levels of satisfaction expressed by the participants, together with examples of good practice and opportunities for continuing improvement.

GLOSSARY OF TERMS IN PROGRAMME REVIEW

DEFINITIONS OF TERMS USED IN THE PROGRAMME REVIEW HANDBOOK

Some of the terms used in the Handbook and/or used in internal and external review and reporting may have different meanings according to the context in which they are used. To remove possible ambiguities, the following working definitions of the terms are offered.

ADEMIC FIELDS/SUBJECT AREAS/DISCIPLINES

Academic fields categorise recognisable and coherent domains or the scope of study such as Mathematics, Medicine, Engineering and Philosophy. Fields that have a wide scope are often subdivided; for example, Humanities include subjects like History and Literature and Arts may include separate disciplines of Fine Arts and Photography. The curriculum of some programmes may combine academic fields, or may include different subjects and disciplines such as Mathematics in Engineering or Accountancy in Business Administration.

ACADEMIC STANDARDS

Specific standards decided by the institution, and informed by external reference points. They include the minimum or threshold level of knowledge and skills to be gained by the graduates from the programme, and can be used in evaluation and review.

ACCREDITATION

The recognition accorded by an agency or other organisation to either an education programme or to an institution to confirm that it can demonstrate that the programme(s) meet acceptable standards and that the institution has effective systems to ensure the quality and continuing improvement of its academic activities, according to published criteria.

ACTION OR IMPROVEMENT PLANS

Realistic plans for improvement derived from the consideration of available evidence and evaluations; they may be implemented for more than one year, but should be prepared and reviewed annually at each level of courses, programmes and the institution.

ADMITTED STUDENTS

Students registered on a programme, including those accepted holding prior credits for admission after year 1.

BENCHMARK/REFERENCE POINTS

Benchmark statements represent general expectations about the standards of achievement and general attributes to be expected of a graduate in a given academic field or subject. Reference standards may be external or internal. External reference points allow comparison of the academic standards and quality of a programme with equivalent programmes in Iraq and internationally. Internal reference points may be used to compare one academic field with another, or to identify trends over a given time period.

COMMUNITY

A defined segment of wider society served by the institution, as determined in its mission and bylaws. It may be defined geographically or in terms of the range of organizations, groups and individuals engaged in its activities.

COURSE AIMS

Overall course aims should be expressed as the outcomes to be achieved by students completing the course as significant and assessable qualities. They should contribute to the achievement of defined aims within one or more education programmes.

CURRICULUM OR (IN THE PLURAL) CURRICULA

The complete organised learning as designed and managed by an institution for an admitted student, determined by the intended learning outcomes (ILOs) and comprising the content, the arrangements for teaching and learning and assessments of students' achievements together with the access to the range of facilities available within the University and, by arrangement, outside it, including libraries, computers studies, social, sports, internships and field studies.

DIRECTED SELF-LEARNING/INDEPENDENT LEARNING

The active promotion of personal skills included in the curriculum that support the student and graduate to seek, assimilate and learn from a range of structured and unstructured experiences. Methods of promotion include e-learning, personal and autonomous learning and fieldwork, assignments, internships, and reflexive learning. Devices commonly used that support directed self-learning beyond formal teaching lectures include logbooks, self-assessment reports, interactive learning tools or the equivalent.

E-LEARNING

Electronic-based learning using information technology may be the primary or secondary element in material associated with a programme or a course. It may be stand-alone or integrated with other teaching and learning approaches. It may include self-determination of aims, ILOs and materials using self-selection and will usually include self-assessment. It generally increases the levels of autonomy in, and responsibility for, learning. Converting existing texts or lecture notes to a website or pre-recorded media alone is generally not considered to be e-learning.

EXTERNAL EVALUATOR/EVALUATION

An appointment to a specific programme, part of a programme or course(s) by the institution to establish an independent and external professional opinion on the academic standards set and achieved in the examinations for the award of the degree.

FRAMEWORK FOR EVALUATION

The framework for evaluation provides a standard structure for evaluation of programmes. It will form the basis for self-evaluation, the site visit by external peer reviewers and the Programme Review report. It is designed to operate in all academic fields and institutions, and to apply to internal and external reviews.

GENERAL PRECEPTS/BY-LAWS
Principles, by-laws and regulations, which the educational institution must have as part of the policies covering its operations.

HIGHER EDUCATION INSTITUTE (HEI)/INSTITUTION
A Faculty, College or University providing higher education programmes leading to a first university degree (B.Sc. or B.A.) or a higher degree.

INTENDED LEARNING OUTCOMES (ILOS)
The ILOs are the outcome-related definition of knowledge, understanding and skills which the institution intends for its programmes. They should be mission-related, capable of measurement (assessable) and reflect the use of external reference standards at appropriate level.

INTERNAL SYSTEM FOR QUALITY MANAGEMENT AND ASSURANCE
The system adopted by the institution to ensure that its education programmes and contributing elements meet specified needs and are continually reviewed and improved. An outcomes-related system of quality management involves precise specifications for quality from design to delivery; evaluation; the identification of good practice as well as of learning deficiencies and obstacles; performance follow-up; suggestions for development and enhancement; and the systematic review and development of processes for establishing effective policies, strategies and priorities to support continuing improvement.

JOB/LABOUR MARKET
The availability of professional, commercial, research-oriented or other fields of employment that a graduate is qualified to join upon graduation.

MISSION STATEMENT
A brief statement clearly identifying the educational institution's duty and its role in the development of the community; a mission statement may also offer brief supporting statements on the vision, values and strategic objectives of the institution.

PEER REVIEWER
A person who is professionally equal in calibre and with management and/or subject expertise to those delivering the provision, but not from the same institution and without any conflict of interest, who can contribute to the review of an education programme for internal and external quality assurance or for accreditation purposes.

PROGRAMME
For the purpose of Programme Review an education programme is defined as one which admits students who, on successful completion, receive an academic award.

PROGRAMME AIMS

The broad purposes for providing the programme which in turn guide the development and implementation of strategic objectives (to ensure that the aims are met) and ILOs (to ensure that the students work towards attaining the specified outcomes).

PROGRAMME REVIEW

Programme Review applies to all education programmes in all higher education institutions. Where the programme is studied in more than one institution, the whole programme is included in Programme Review. Programme Review in Iraq has three objectives:

1) To provide decision-makers (in the higher education institutions, Quality Assurance and Academic Accreditation Directorate , parents, students, and other stakeholders) with evidence-based judgements on the quality of learning programmes
2) To support the development of internal quality assurance processes with information on emerging good practice and challenges, evaluative comment and continuing improvement
3) To enhance the reputation of Iraq's higher education internationally.

QUALITY ASSURANCE

The institution has the means of assuring that for each education programme, academic standards are defined and achieved in line with equivalent national and international standards, that the quality of the curriculum and related infrastructure are appropriate and fulfil the expectations of the range of stakeholders, that its graduates represent the range of attributes specified and that the organisation is capable of sustained, continuing improvement.

REVIEW COORDINATOR

The nominee of an institution to coordinate a Programme Review to assist in the gathering and interpretation of information and to support the application of published methods of review.

REPORT

The regular reports prepared on the basis of Programme Reviews and evaluations of its education programme.

SELF-EVALUATION

n institution's process of evaluating a programme as part of Programme Review and within an internal system of quality management and assurance.

SITE VISIT

A scheduled visit by external peer reviewers as part of Programme Review. Normally the site visit will be for two or three days. A typical outline timetable is provided in Appendix(1).

SPECIFICATION

The detailed description of the aims, construction and intended outcomes of a programme, and any courses, specific facilities or resources that contribute to it. The specification provides information to design, manage, deliver and review the programme.

STAKEHOLDER

Those organisations, groups or individuals which have a legitimate interest in the educational activities of the institution both in respect of the quality and standards of the education and also in respect of the effectiveness of the systems and processes for assuring the quality. An effective strategic review process will include the key stakeholder groups. The precise range of stakeholder groups and their differentiated interests depend upon the mission of the institution, its range of educational activities and local circumstances. The range is usually defined by a scoping study. Examples of groups with a legitimate interest include current students, graduates, intending students and their parents or family, staff in the institution, the employing community, the relevant Government ministries, the sponsors and other funding organisations and, where appropriate, professional organisations or syndicates.

STRATEGIC OBJECTIVES/PLANS

A collection of institution-specific objectives that are derived from its mission and developed into a realistic plan based on evidence-based evaluations. Objectives concentrate on the means by which an institution seeks to deliver its mission. The plan sets out the matters to be addressed, timeframe, person responsible and estimate of costs, and is accompanied by an implementation plan with arrangements for monitoring the progress and evaluating impact.

STUDENTS'ASSESSMENT

A set of processes, including examinations and other activities conducted by the institution to measure the achievement of the intended learning outcomes of a programme and its courses. Assessments also provide the means by which students are ranked according to their achievement. Diagnostic assessment seeks to determine the existing range of knowledge and skills of a student with a view to constructing an appropriate curriculum. Formative assessment provides information on the student's performance and progress to support further learning, without necessarily counting a grade towards graduation. Summative assessment determines the final level of attainment of the student on the programme or at the end of a course that contributes credits to the programme.

STUDENTS' EVALUATIONS

The systematic gathering of students'opinions on the quality of their programme in a standardized structure together with the analysis and outcomes. Surveys using questionnaires are the most frequently used methods to collect opinions; other mechanisms include websites conferences, panels or focus groups, and representation on councils or other committees.

TEACHING AND LEARNING METHODS

The range of methods used by teachers to help students to achieve the ILOs for the course. Examples include: lectures, small group teaching such as tutorials, seminars and syndicate groups; a case study to teach students how to analyse information and reach a decision; assignments such as writing a review paper for the students to gain the skills of self-learning and presentation; field trips; practical sessions for the students to gain practical skills; and carrying out experiments to train the students to analyse the results, reach specific conclusions and prepare a report, presentation or poster.

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	
2. University Department/Centre	
3. Programme Title	
4. Title of Final Award	
5. Modes of Attendance offered	
6. Accreditation	
7. Other external influences	
8. Date of production/revision of this specification	
9. Aims of the Programme	

10. Learning Outcomes, Teaching, Learning and Assessment Methods
A. Knowledge and Understanding A1. A2. A3. A4. A5. A6.
B. Subject-specific skills B1. B2. B3.
Teaching and Learning Methods
Assessment methods
C. Thinking Skills 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 the main features of the mathematic for the students of the 2nd year in Engineering. The principle goal of the course is to teach the differential calculates and integral calculate for differential Equations concepts and apply them to solve problems.

1. Teaching Institution	University of Technology
2. University Department/Centre	Department of Production Engineering &Metallurgy
3. Course title/code	Mathematic
4. Programme(s) to which it contributes	Production Engineering
5. Modes of Attendance offered	Complete hours
6. Semester/Year	1st & 2nd Semester / Year
7. Number of hours tuition (total)	Three hours / week 3H*30w=90H/W
8. Date of production/revision of this specification	2/6/2014

9. Aims of the Course
   The aims which can be achieved during teaching this the course program are as follows:-

Introduce the students to the different types of functions and mathematical systems such as Space coordinate systems & Vectors and analytic geometry in space, Arithmetic operations on vectors & Dot (Scalar) product, Cross (Vector) product & Triple product, Vector Functions & Parametric Equations, Parametric Equations of lines, Parametric Equations of planes, Functions of multivariable, Partial Derivatives, Total differential for multivariable Functions, The chain rule for multivariable Functions, Differential of implicit multivariable Functions and related

rate problems, Directional Derivatives, Gradient and its applications, Double integrals in Cartesian coordinate (over rectangular regions), Double integrals over non rectangular regions, Double integrals in polar coordinate, Converting Double integrals from rectangular to polar coordinates, Triple integrals in Cartesian coordinate (over rectangular boxes), Triple integrals over non rectangular boxes, Reversing the order of a Triple integrals & Volume calculated as a Triple integral, Differential equation (DE), definitions and concepts, Solution of DE, Initial & Boundary Value problems, Solutions techniques of first order ordinary DE , Infinite Series, Convergence tests, The comparison, ratio, and root tests, Alternating Series; Conditional convergence.

10· Learning Outcomes, Teaching ,Learning and Assessment Methode

A- Knowledge and Understanding

Enabling students to get the Knowledge and understanding multi variable manipulation

B. Subject-specific skills
B1. Literatures
B2.Tutorial

Teaching and Learning Methods

Practical application and solving problems

Assessment methods

1- Examinations.
2- Quizzes.
3- Home works
4- Tutorial, reports and discussion

C. Thinking Skills
  C1. Reports
  C2. Home works

Teaching and Learning Methods

1- Literatures.
2- Tutorials.

Assessment methods

1- Test 1.
2- Test 2.
3- Quizzes and assignments.
4- Final Examination.

D. General and Transferable Skills (other skills relevant to employability and personal development)
Solution of different problems as applications.

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
11. Course Structure					
1	2+1	a, c, e, d, h, k	Space coordinate systems & Vectors and analytic geometry in space	Literature	Examination, Quizzes and discussion
2	2+1	a, c, e, d, h, k	Arithmetic operations on vectors & Dot (Scalar) product	Literature	Examination, Quizzes and discussion
3	2+1	a, c, e, d, h, k	Cross (Vector) product & Triple product	Literature	Examination, Quizzes and discussion
4	2+1	a, c, e, d, h, k	Vector Functions & Parametric Equations	Literature	Examination, Quizzes and discussion
5	2+1	a, c, e, d, h, k	Parametric Equations of lines	Literature	Examination, Quizzes and discussion
6	2+1	a, c, e, d, h, k	Parametric Equations of planes	Literature	Examination, Quizzes and discussion
7	2+1	a, c, e, d, h, k	Functions of multivariable	Literature	Examination, Quizzes and discussion
8	2+1	a, c, e, d, h, k	Partial Derivatives	Literature	Examination, Quizzes and discussion
9	2+1	a, c, e, d, h, k	Total differential for multivariable Functions	Literature	Examination, Quizzes and discussion
10	2+1	a, c, e, d, h, k	The chain rule for multivariable Functions	Literature	Examination, Quizzes and discussion
11	2+1	a, c, e, d, h, k	Differential of implicit multivariable Functions and related rate problems	Literature	Examination, Quizzes and discussion
12	2+1	a, c, e, d, h, k	Directional Derivatives	Literature	Examination, Quizzes and discussion
13	2+1	a, c, e, d, h, k	Gradient and its applications	Literature	Examination, Quizzes and discussion

14	**2+1**	**a, c, e, d, h, k**	Double integrals in Cartesian coordinate (over rectangular regions)	Literature	Examination, Quizzes and discussion
15	**2+1**	**a, c, e, d, h, k**	Double integrals over non rectangular regions	Literature	Examination, Quizzes and discussion
16	**2+1**	**a, c, e, d, h, k**	Double integrals in polar coordinate	Literature	Examination, Quizzes and discussion
17	**2+1**	**a, c, e, d, h, k**	Converting Double integrals from rectangular to polar coordinates	Literature	Examination, Quizzes and discussion
18	**2+1**	**a, c, e, d, h, k**	Triple integrals in Cartesian coordinate (over rectangular boxes)	Literature	Examination, Quizzes and discussion
19	**2+1**	**a, c, e, d, h, k**	Triple integrals over non rectangular boxes	Literature	Examination, Quizzes and discussion
20	**2+1**	**a, c, e, d, h, k**	Reversing the order of a Triple integrals & Volume calculated as a Triple integral	Literature	Examination, Quizzes and discussion
21	**2+1**	**a, c, e, d, h, k**	Differential equation (DE), definitions and concepts	Literature	Examination, Quizzes and discussion
22	**2+1**	**a, c, e, d, h, k**	Solution of DE	Literature	Examination, Quizzes and discussion
23	**2+1**	**a, c, e, d, h, k**	Initial & Boundary Value problems	Literature	Examination, Quizzes and discussion
24	**2+1**	**a, c, e, d, h, k**	Solutions techniques of first order ordinary DE (Separable ODE, Homogeneous ODE,)	Literature	Examination, Quizzes and discussion
25	**2+1**	**a, c, e, d, h, k**	Solutions techniques of first order ordinary DE (Linear ODE, Reducible to linear ODE)	Literature	Examination, Quizzes and discussion
26	**2+1**	**a, c, e, d, h, k**	Solutions techniques of first order ordinary DE (Exact ODE, Reducible to Exact ODE)	Literature	Examination, Quizzes and discussion
27	**2+1**	**a, c, e, d, h, k**	Infinite Series	Literature	Examination, Quizzes and discussion

28	**2+1**	**a, c, e, d, h, k**	Convergence tests		Literature	Examination, Quizzes and discussion
29	**2+1**	**a, c, e, d, h, k**	The comparison, ratio, and root tests		Literature	Examination, Quizzes and discussion
30	**2+1**	**a, c, e, d, h, k**	Alternating Series; Conditional convergence		Literature	Examination, Quizzes and discussion

12. Infrastructure	
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	1- Lectures 2- Text books 3- Calculus
Special requirements (include for example workshops, periodicals, IT software, websites)	Internet and Web sites
Community-based facilities (include for example, guest Lectures , internship , field studies)	Lectures

13. Admissions	
Pre-requisites	Pass from last stage (year)
Minimum number of students	No limits
Maximum number of students	No limits

TEMPLATE FOR TYPICAL SITE VISIT CHEDULE

1. The typical site visit schedule is designed for two or three days. It includes pre-arranged meetings. The responsibility for arranging these meetings and fitting the template to the circumstances rests with the Universities Quality Assurance and University Performance departments
2. Site visits will normally commence at 09:00 on day 1. Start times of pre-arranged meetings are indicated. Pre-arranged meetings should not normally last more than one hour. The schedule should not completely fill all times with meetings, but leave space for additional activities by peer reviewers including preparing for meetings, updating notes and records and drafting paragraphs for the draft Programme Review report

Table (1)

Session	Time	Activity
Day 1		
1	09:00	Welcome and introductions; brief introduction to the review (purposes, intended outcomes, use of evidence and self-evaluation report) – Programme Team
2	09:30	Curriculum; discussion with faculty members
3	11:00	Meeting with a group of students
4	12:30	Efficiency: tour of resources
5	14:00	Review panel meeting: scrutiny of additional documentation including sample of students' assessed work
6	15:00	Efficiency: meeting with faculty members
7	16:00	Review panel meeting: review of the evidence and any gaps or matters to follow-up
8	17:00	Meeting with external stakeholders (sample of graduates, employers, other partners)
Day 2		
9	08:45	Review meeting with review chairperson, review coordinator, programme leader: summary of day 1 findings, addressing any gaps, adjust the schedule for day 2 if required
10	09:00	Academic standards: meeting with faculty members
11	10:30	Effectiveness of quality management and assurance: meeting with faculty members
12	12:00	Review panel meeting: review of evidence and any matters still to be addressed
13	14:00	Flexible time to pursue any matters arising
14	14:30	Review panel final meeting: decisions on outcomes and drafting oral feedback
15	16:30	Oral feedback by review chairperson to review coordinator and faculty members
	17:00	Close

TEMPLATE FOR THE FOLLOW-UP PROCESS AND REPORT, AND OUTLINE OF TYPICAL SITE VISIT SCHEDULE FOR FOLLOW-UP

TEMPLATE FOR FOLLOW-UP REPORT

Quality Assurance and Academic Accreditation Directorate / International Accreditation Department.

Institution:

Faculty:

Programme:

Follow-up Report

1. This report presents the findings of the follow-up visit, which took place on / /20__. This is part of the Universities Quality Assurance and University Performance departments arrangements to provide continuing support for the development of internal quality assurance processes and continuing improvement

2. The purposes of the follow-up review are to assess the progress made in the programme since the Programme Review report, and to provide further information and support for the continuing improvement of academic standards and quality of higher education in Iraq.

3. The evidence base used in this follow-up review and report includes:
   a) Self-Evaluation Report for the programme together with supporting information
   b) Improvement plan prepared and implemented since the Programme Review report
   c) Programme Review Report
   d) Higher Education Quality Review Report and institutional strategic plan (if any)
   e) Additional evidence presented during the follow-up visit.

4. The overall conclusions reached as the outcome of the follow-up review are as follows:
   a) The programme (give title) at (give name of institution) has/has not successfully implemented an improvement plan.
   b) Good practice in the indicators demonstrated since the Programme Review site visit includes: (insert)
   c) Matters of particular importance that should be addressed by the institution in its continuing improvement of the programme are: (insert and indicate if they are, or as yet are not, addressed by the improvement plan).

5. The detailed report is provided in Annexure A below.

Annexure A

Name of Institution_____

Date of initial Programme Review site visit_____

Date visited in follow-up   _____

Date of follow-up report   _____

Names of follow-up reviewers   Position/title   Signed

Part 1: The Internal Quality Assurance System in operation				
	Questions	**Yes? (√)**	**Comment**	**Further action required?**
1	Is the programme Self- Evaluation Report complete?			
2	Do the most recent self-evaluation reports indicate the extent to which the criteria in the Framework for Evaluation are met and/or are being addressed?			
3	Is there an improvement plan in place, informed by external and internal review?			
4	Are there any major gaps that appear not to be addressed?			
5	Is progress with the improvement plan monitored?			
6	Are there any major obstacles to the expected achievementof the improvement plan?			
7	What is the institution's estimate of the time needed to complete improvements to the programme?			
8	What is the reviewers' assessment of the time needed to complete improvements to the programme that would demonstrate the indicators?			

Part 2: Progress demonstrated with the indicators			
Indicators (refer to Framework of Evaluation)	Improvement plan points (comment on match with the Programme Review report's recommendations)	New information from follow-up site visit	Overall Conclusion
Curriculum Aims and ILOs Syllabus (content) Progression year on year Teaching and Learning Student assessment			
Efficiency Profile of admitted students Human resources Physical resources Uses made of available resources Student support Ratios of graduation to admitted students			
Academic Standards Clearly articulated standards Use of appropriate benchmarks Achievement of graduates Standards of students' assessed work			
Programme management and Assurance Arrangements for programme management Policies and procedures applied Structured comments collected and used Staff development needs identified and addressed Improvement planning processes working			

CRITERIA FOR A SUCCESSFUL REVIEW AND EVALUATION OF THE PROCESS

CRITERIA FOR A SUCCESSFUL REVIEW

1. The criteria for a successful review that informs the arrangements for Programme Review and its evaluation are as follows:

    i. The programme being reviewed is supported by existing or developing internal systems including specifications and review with a culture of self-evaluation and continuing improvement. These features of internal review provide a sound basis for the external review.

    ii. The timing of the external review is appropriate.

    iii. The profile of the visiting peer review panel matches in broad terms the profile of the academic activities in the institution.

    iv. There is due attention to detail in planning and preparation, by -

        a. The Quality Assurance and Academic Accreditation Directorate applies consistently its procedures for working with the institution and the reviewers and provides appropriate support for the external review as required

        b. The review coordinator: ensures that the evidence base generated by internal review and reporting systems is available on time to the visiting peer reviewers, and any requirements for clarification and supplementary information are satisfied

        c. The institution: provides a self-evaluation report for the programme to be externally reviewed

        d. The peer reviewers: undertake their preparation for the visit including reading the advance documentation and preparing initial commentaries that inform the conduct of the visit

    v. There is consistency in the application of the published review method and the protocols by all participants in a way that respects and supports the mission and philosophy of the overall process for continuing review and continuing improvement.

    vi. Reviewers and representatives of the institution conduct an open dialogue throughout the review that shows mutual respect.

    vii. The judgements reached by the reviewers are clear, based on the evidence available and systematically recorded.

    viii. The review report is produced on time in line with the standard report structure and is confirmed by the institution to be factually accurate.

    ix. The set of conclusions arising from the review are constructive, offering a fair and balanced view of the programme.

    x. The institution is able to benefit from the external review by giving due reflection and consideration to the findings and preparing where appropriate a realistic improvement plan

EVALUATION

2. The Quality Assurance and Academic Accreditation Directorate wishes to establish and implement procedures for the systematic evaluation of all external Programme Reviews arranged by it. The institution, the review chairperson and the peer reviewers will all routinely be asked to evaluate each external review by completing a short questionnaire. The structured comments will be analysed by the Quality Assurance and Academic Accreditation Directorate and where necessary the Quality Assurance and Academic Accreditation Directorate will take action to follow-up any difficulties highlighted. In addition, the Quality Assurance and Academic Accreditation Directorate will collate the structured comments to compile regular summary reports indicating the main features of the review process in practice, including the overall levels of satisfaction expressed by the participants, together with examples of good practice and opportunities for continuing improvement.

GLOSSARY OF TERMS IN PROGRAMME REVIEW

DEFINITIONS OF TERMS USED IN THE PROGRAMME REVIEW HANDBOOK

Some of the terms used in the Handbook and/or used in internal and external review and reporting may have different meanings according to the context in which they are used. To remove possible ambiguities, the following working definitions of the terms are offered.

ADEMIC FIELDS/SUBJECT AREAS/DISCIPLINES

Academic fields categorise recognisable and coherent domains or the scope of study such as Mathematics, Medicine, Engineering and Philosophy. Fields that have a wide scope are often subdivided; for example, Humanities include subjects like History and Literature and Arts may include separate disciplines of Fine Arts and Photography. The curriculum of some programmes may combine academic fields, or may include different subjects and disciplines such as Mathematics in Engineering or Accountancy in Business Administration.

ACADEMIC STANDARDS

Specific standards decided by the institution, and informed by external reference points. They include the minimum or threshold level of knowledge and skills to be gained by the graduates from the programme, and can be used in evaluation and review.

ACCREDITATION

The recognition accorded by an agency or other organisation to either an education programme or to an institution to confirm that it can demonstrate that the programme(s) meet acceptable standards and that the institution has effective systems to ensure the quality and continuing improvement of its academic activities, according to published criteria.

ACTION OR IMPROVEMENT PLANS

Realistic plans for improvement derived from the consideration of available evidence and evaluations; they may be implemented for more than one year, but should be prepared and reviewed annually at each level of courses, programmes and the institution.

ADMITTED STUDENTS

Students registered on a programme, including those accepted holding prior credits for admission after year 1.

BENCHMARK/REFERENCE POINTS

Benchmark statements represent general expectations about the standards of achievement and general attributes to be expected of a graduate in a given academic field or subject. Reference standards may be external or internal. External reference points allow comparison of the academic standards and quality of a programme with equivalent programmes in Iraq and internationally. Internal reference points may be used to compare one academic field with another, or to identify trends over a given time period.

COMMUNITY
A defined segment of wider society served by the institution, as determined in its mission and bylaws. It may be defined geographically or in terms of the range of organizations, groups and individuals engaged in its activities.

COURSE AIMS
Overall course aims should be expressed as the outcomes to be achieved by students completing the course as significant and assessable qualities. They should contribute to the achievement of defined aims within one or more education programmes.

CURRICULUM OR (IN THE PLURAL) CURRICULA
The complete organised learning as designed and managed by an institution for an admitted student, determined by the intended learning outcomes (ILOs) and comprising the content, the arrangements for teaching and learning and assessments of students' achievements together with the access to the range of facilities available within the University and, by arrangement, outside it, including libraries, computers studies, social, sports, internships and field studies.

DIRECTED SELF-LEARNING/INDEPENDENT LEARNING
The active promotion of personal skills included in the curriculum that support the student and graduate to seek, assimilate and learn from a range of structured and unstructured experiences. Methods of promotion include e-learning, personal and autonomous learning and fieldwork, assignments, internships, and reflexive learning. Devices commonly used that support directed self-learning beyond formal teaching lectures include logbooks, self-assessment reports, interactive learning tools or the equivalent.

E-LEARNING
Electronic-based learning using information technology may be the primary or secondary element in material associated with a programme or a course. It may be stand-alone or integrated with other teaching and learning approaches. It may include self-determination of aims, ILOs and materials using self-selection and will usually include self-assessment. It generally increases the levels of autonomy in, and responsibility for, learning. Converting existing texts or lecture notes to a website or pre-recorded media alone is generally not considered to be e-learning.

EXTERNAL EVALUATOR/EVALUATION
An appointment to a specific programme, part of a programme or course(s) by the institution to establish an independent and external professional opinion on the academic standards set and achieved in the examinations for the award of the degree.

FRAMEWORK FOR EVALUATION
The framework for evaluation provides a standard structure for evaluation of programmes. It will form the basis for self-evaluation, the site visit by external peer reviewers and the Programme Review report. It is designed to operate in all academic fields and institutions, and to apply to internal and external reviews.

GENERAL PRECEPTS/BY-LAWS
Principles, by-laws and regulations, which the educational institution must have as part of the policies covering its operations.

HIGHER EDUCATION INSTITUTE (HEI)/INSTITUTION
A Faculty, College or University providing higher education programmes leading to a first university degree (B.Sc. or B.A.) or a higher degree.

INTENDED LEARNING OUTCOMES (ILOS)
The ILOs are the outcome-related definition of knowledge, understanding and skills which the institution intends for its programmes. They should be mission-related, capable of measurement (assessable) and reflect the use of external reference standards at appropriate level.

INTERNAL SYSTEM FOR QUALITY MANAGEMENT AND ASSURANCE
The system adopted by the institution to ensure that its education programmes and contributing elements meet specified needs and are continually reviewed and improved. An outcomes-related system of quality management involves precise specifications for quality from design to delivery; evaluation; the identification of good practice as well as of learning deficiencies and obstacles; performance follow-up; suggestions for development and enhancement; and the systematic review and development of processes for establishing effective policies, strategies and priorities to support continuing improvement.

JOB/LABOUR MARKET
The availability of professional, commercial, research-oriented or other fields of employment that a graduate is qualified to join upon graduation.

MISSION STATEMENT
A brief statement clearly identifying the educational institution's duty and its role in the development of the community; a mission statement may also offer brief supporting statements on the vision, values and strategic objectives of the institution.

PEER REVIEWER
A person who is professionally equal in calibre and with management and/or subject expertise to those delivering the provision, but not from the same institution and without any conflict of interest, who can contribute to the review of an education programme for internal and external quality assurance or for accreditation purposes.

PROGRAMME
For the purpose of Programme Review an education programme is defined as one which admits students who, on successful completion, receive an academic award.

PROGRAMME AIMS

The broad purposes for providing the programme which in turn guide the development and implementation of strategic objectives (to ensure that the aims are met) and ILOs (to ensure that the students work towards attaining the specified outcomes).

PROGRAMME REVIEW

Programme Review applies to all education programmes in all higher education institutions. Where the programme is studied in more than one institution, the whole programme is included in Programme Review. Programme Review in Iraq has three objectives:

1) To provide decision-makers (in the higher education institutions, Quality Assurance and Academic Accreditation Directorate , parents, students, and other stakeholders) with evidence-based judgements on the quality of learning programmes
2) To support the development of internal quality assurance processes with information on emerging good practice and challenges, evaluative comment and continuing improvement
3) To enhance the reputation of Iraq's higher education internationally.

QUALITY ASSURANCE

The institution has the means of assuring that for each education programme, academic standards are defined and achieved in line with equivalent national and international standards, that the quality of the curriculum and related infrastructure are appropriate and fulfil the expectations of the range of stakeholders, that its graduates represent the range of attributes specified and that the organisation is capable of sustained, continuing improvement.

REVIEW COORDINATOR

The nominee of an institution to coordinate a Programme Review to assist in the gathering and interpretation of information and to support the application of published methods of review.

REPORT

The regular reports prepared on the basis of Programme Reviews and evaluations of its education programme.

SELF-EVALUATION

n institution's process of evaluating a programme as part of Programme Review and within an internal system of quality management and assurance.

SITE VISIT

A scheduled visit by external peer reviewers as part of Programme Review. Normally the site visit will be for two or three days. A typical outline timetable is provided in Appendix(1).

SPECIFICATION

The detailed description of the aims, construction and intended outcomes of a programme, and any courses, specific facilities or resources that contribute to it. The specification provides information to design, manage, deliver and review the programme.

STAKEHOLDER

Those organisations, groups or individuals which have a legitimate interest in the educational activities of the institution both in respect of the quality and standards of the education and also in respect of the effectiveness of the systems and processes for assuring the quality. An effective strategic review process will include the key stakeholder groups. The precise range of stakeholder groups and their differentiated interests depend upon the mission of the institution, its range of educational activities and local circumstances. The range is usually defined by a scoping study. Examples of groups with a legitimate interest include current students, graduates, intending students and their parents or family, staff in the institution, the employing community, the relevant Government ministries, the sponsors and other funding organisations and, where appropriate, professional organisations or syndicates.

STRATEGIC OBJECTIVES/PLANS

A collection of institution-specific objectives that are derived from its mission and developed into a realistic plan based on evidence-based evaluations. Objectives concentrate on the means by which an institution seeks to deliver its mission. The plan sets out the matters to be addressed, timeframe, person responsible and estimate of costs, and is accompanied by an implementation plan with arrangements for monitoring the progress and evaluating impact.

STUDENTS'ASSESSMENT

A set of processes, including examinations and other activities conducted by the institution to measure the achievement of the intended learning outcomes of a programme and its courses. Assessments also provide the means by which students are ranked according to their achievement. Diagnostic assessment seeks to determine the existing range of knowledge and skills of a student with a view to constructing an appropriate curriculum. Formative assessment provides information on the student's performance and progress to support further learning, without necessarily counting a grade towards graduation. Summative assessment determines the final level of attainment of the student on the programme or at the end of a course that contributes credits to the programme.

STUDENTS' EVALUATIONS

The systematic gathering of students'opinions on the quality of their programme in a standardized structure together with the analysis and outcomes. Surveys using questionnaires are the most frequently used methods to collect opinions; other mechanisms include websites conferences, panels or focus groups, and representation on councils or other committees.

TEACHING AND LEARNING METHODS

The range of methods used by teachers to help students to achieve the ILOs for the course. Examples include: lectures, small group teaching such as tutorials, seminars and syndicate groups; a case study to teach students how to analyse information and reach a decision; assignments such as writing a review paper for the students to gain the skills of self-learning and presentation; field trips; practical sessions for the students to gain practical skills; and carrying out experiments to train the students to analyse the results, reach specific conclusions and prepare a report, presentation or poster.

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	
2. University Department/Centre	
3. Programme Title	
4. Title of Final Award	
5. Modes of Attendance offered	
6. Accreditation	
7. Other external influences	
8. Date of production/revision of this specification	
9. Aims of the Programme	

10. Learning Outcomes, Teaching, Learning and Assessment Methods			
A. Knowledge and Understanding A1. A2. A3. A4. A5. A6.			
B. Subject-specific skills B1. B2. B3.			
Teaching and Learning Methods			
Assessment methods			
C. Thinking Skills 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.

1. Teaching Institution	Metallurgical Engineering
2. University Department/Centre	Production Engineering &Metallurgy
3. Course title/code	Metallurgical Engineering
4. Programme(s) to which it contributes	Metallurgical Engineering &Production Engineering
5. Modes of Attendance offered	Complete Hours
6. Semester/Year	1st & 2st Semester / Year
7. Number of hours tuition (total)	Two Hours / Week 2H X 30W = 60 H / year
8. Date of production/revision of this specification	19/ 5/2014

9. Aims of the Course
The aims which can be achieved during teaching this course program are as follows:
1- Illustrations and discussion the principles of construction thermal equilibrium phase diagram for binary alloys .
2- Explanation the Iron – carbon system then studying the classification & application of steel and cast iron
3- Determination & calculation the amount of phases by using the lever rule method
4- The effect of heat treatment on microstructure and mechanical properties of steel
5- Studying the application and properties of non ferrous metals (Al, Cu)

6- The role of critical resolved shear stress on slip formation
7- Studying the type of defects , dislocation theory , diffusion and diffusion theory

10· Learning Outcomes, Teaching ,Learning and Assessment Methods
A- Knowledge and Understanding A1.Enabling student to get knowledge and understanding how to construct the cooling curve and thermal equilibrium diagram of binary alloys A2. Proceeding knowledge and understanding the iron – carbon system and using of steel &cast iron in industrial applications A3. Studying the types of heat treatment and its effect on microstructure and mechanical properties A4. Describe the slip formation after deformation and how to calculate the critical resolved shear stress A5. Understanding the type of defects in crystal structure of metals, and how can the dislocation multiplication. A6 . Knowledge the method of diffusion process and the law of diffusion
B. Subject-specific skills B1. How to choosing the material for industrial applications B2. How to construct the equilibrium phase diagram &cooling curve B3. good background about heat treatment ,surface hardening&coating
Teaching and Learning Methods
1- Literatures by using power point 2- Home works 3- Reports 4- Theoretical questions
Assessment methods
1- Central Exam . at the end of first semester 15% 2- Second Exam. . at the end of second semester 10% 3- Home works , quizzes 5% 4- Experiments Labs. 10% 5- Final Exam.60%
C. Thinking Skills C1.Solution the problems about the binary alloy systems C2. Analysis the reactions which occurs in phase diagram C3. How to chose the heating temperature of steel and non ferrous metals C4. how to select the metal or the alloy for indusial applications
Teaching and Learning Methods
1- Literatures 2- Tutorials

3- Tests
4- Experiments

Assessment methods

1- Central Exam.
2- Second Exam.
3- Discussion the reports
4- Experiments Lab.
5- Final central exam.

D. General and Transferable Skills (other skills relevant to employability and personal development)
  D1.Analysis type of binary alloy systems
  D2.Calculation the amount of phases from the diagram
  D3. Determine the reactions and phases on the diagrams
  D4. Case study how to chose the metal and alloy for the specific industrial applications

11. Course Structure

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	2	Literature &Experimental	Binary alloys,Cooling curves	Lecture &P.P show	Examination ,Quizzes, and reports
2	2		Construction of phase diagrams for binary alloys		
3	2		Solid solution system, the lever rule		
4	2		Eutectic system		
5	2		Peritectic system		
6	2		Monotectic system		
7	2		Complex system		
8	2		Intermetallic system		
9	2		Iron –Carbon system		
10	2		Classification &application of steel		

11	2		Effect of carbon percentage on microstructure&mechanical properties of steel		
12	2		Type of alloy steel		
13	2		Special perpous steel		
14	2		Super alloy		
15	2		Type of cast iron		
16	2		Non ferrous metal , copper & its alloys		
17	2		Aluminum &its alloys		
18	2		Shear stress/ critical resolved shear stress		
19	2		Linear , point , planer and volume defect		
20	2		Dislocation theory		
21	2		Burgers vector		
22	2		Frank-Read source / nucleation		
23	2		Climb		
24	2		Ludres band		
25	2		Theory of diffusion		
26	2		Ficks first and second law		
27	2		Keirkendall effect / porosity		
28	2		Darkens equations		
29	2		Matano method		

30	2		Determination of the intrinisic , self,chemical, diffusion		

12. Infrastructure	
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	Materails science and Eng. An introduction,third edition, William D.Callister 1994. Materail science and engineering R.K.Rajput,2005 Askeland science Eng. Materials, Donald R.Askeland , pradeep.F,Wendelin J.W, sixth edition ,2010. Material science and Eng. William D,Callister, 2007. And others
Special requirements (include for example workshops, periodicals, IT software, websites)	
Community-based facilities (include for example, guest Lectures , internship , field studies)	

13. Admissions	
Pre-requisites	
Minimum number of students	
Maximum number of students	

TEMPLATE FOR FOLLOW-UP REPORT

Quality Assurance and Academic Accreditation Directorate / International Accreditation Department.

Institution:

Faculty:

Programme:

Follow-up Report

1. This report presents the findings of the follow-up visit, which took place on / /20__. This is part of the Universities Quality Assurance and University Performance departments arrangements to provide continuing support for the development of internal quality assurance processes and continuing improvement

2. The purposes of the follow-up review are to assess the progress made in the programme since the Programme Review report, and to provide further information and support for the continuing improvement of academic standards and quality of higher education in Iraq.

3. The evidence base used in this follow-up review and report includes:
   a) Self-Evaluation Report for the programme together with supporting information
   b) Improvement plan prepared and implemented since the Programme Review report
   c) Programme Review Report
   d) Higher Education Quality Review Report and institutional strategic plan (if any)
   e) Additional evidence presented during the follow-up visit.

4. The overall conclusions reached as the outcome of the follow-up review are as follows:
   a) The programme (give title) at (give name of institution) has/has not successfully implemented an improvement plan.
   b) Good practice in the indicators demonstrated since the Programme Review site visit includes: (insert)
   c) Matters of particular importance that should be addressed by the institution in its continuing improvement of the programme are: (insert and indicate if they are, or as yet are not, addressed by the improvement plan).

5. The detailed report is provided in Annexure A below.
   Annexure A

Name of Institution_____

Date of initial Programme Review site visit_____

Date visited in follow-up   _____

Date of follow-up report   _____

Names of follow-up reviewers   Position/title   Signed

	Questions	Yes? (√)	Comment	Further action required?
1	Is the programme Self- Evaluation Report complete?			
2	Do the most recent self-evaluation reports indicate the extent to which the criteria in the Framework for Evaluation are met and/or are being addressed?			
3	Is there an improvement plan in place, informed by external and internal review?			
4	Are there any major gaps that appear not to be addressed?			
5	Is progress with the improvement plan monitored?			
6	Are there any major obstacles to the expected achievementof the improvement plan?			
7	What is the institution's estimate of the time needed to complete improvements to the programme?			
8	What is the reviewers' assessment of the time needed to complete improvements to the programme that would demonstrate the indicators?			

Part 1: The Internal Quality Assurance System in operation

Part 2: Progress demonstrated with the indicators

Indicators (refer to Framework of Evaluation)	Improvement plan points (comment on match with the Programme Review report's recommendations)	New information from follow-up site visit	Overall Conclusion
Curriculum Aims and ILOs Syllabus (content) Progression year on year Teaching and Learning Student assessment			
Efficiency Profile of admitted students Human resources Physical resources Uses made of available resources Student support Ratios of graduation to admitted students			
Academic Standards Clearly articulated standards Use of appropriate benchmarks Achievement of graduates Standards of students' assessed work			
Programme management and Assurance Arrangements for programme management Policies and procedures applied Structured comments collected and used Staff development needs identified and addressed Improvement planning processes working			

CRITERIA FOR A SUCCESSFUL REVIEW AND EVALUATION OF THE PROCESS

CRITERIA FOR A SUCCESSFUL REVIEW

1. The criteria for a successful review that informs the arrangements for Programme Review and

its evaluation are as follows:

i. The programme being reviewed is supported by existing or developing internal systems including specifications and review with a culture of self-evaluation and continuing improvement. These features of internal review provide a sound basis for the external review.

ii. The timing of the external review is appropriate.

iii. The profile of the visiting peer review panel matches in broad terms the profile of the academic activities in the institution.

iv. There is due attention to detail in planning and preparation, by -

a. The Quality Assurance and Academic Accreditation Directorate applies consistently its procedures for working with the institution and the reviewers and provides appropriate support for the external review as required

b. The review coordinator: ensures that the evidence base generated by internal review and reporting systems is available on time to the visiting peer reviewers, and any requirements for clarification and supplementary information are satisfied

c. The institution: provides a self-evaluation report for the programme to be externally reviewed

d. The peer reviewers: undertake their preparation for the visit including reading the advance documentation and preparing initial commentaries that inform the conduct of the visit

v. There is consistency in the application of the published review method and the protocols by all participants in a way that respects and supports the mission and philosophy of the overall process for continuing review and continuing improvement.

vi. Reviewers and representatives of the institution conduct an open dialogue throughout the review that shows mutual respect.

vii. The judgements reached by the reviewers are clear, based on the evidence available and systematically recorded.

viii. The review report is produced on time in line with the standard report structure and is confirmed by the institution to be factually accurate.

ix. The set of conclusions arising from the review are constructive, offering a fair and balanced view of the programme.

x. The institution is able to benefit from the external review by giving due reflection and consideration to the findings and preparing where appropriate a realistic improvement plan

EVALUATION

2. The Quality Assurance and Academic Accreditation Directorate wishes to establish and implement procedures for the systematic evaluation of all external Programme Reviews arranged by it. The institution, the review chairperson and the peer reviewers will all routinely be asked to evaluate each external review by completing a short questionnaire. The structured comments will be analysed by the Quality Assurance and Academic Accreditation Directorate and where necessary the Quality Assurance and Academic Accreditation Directorate will take action to follow-up any difficulties highlighted. In addition, the Quality Assurance and Academic Accreditation Directorate will collate the structured comments to compile regular summary reports indicating the main features of the review process in practice, including the overall levels of satisfaction expressed by the participants, together with examples of good practice and opportunities for continuing improvement.

GLOSSARY OF TERMS IN PROGRAMME REVIEW

DEFINITIONS OF TERMS USED IN THE PROGRAMME REVIEW HANDBOOK

Some of the terms used in the Handbook and/or used in internal and external review and reporting may have different meanings according to the context in which they are used. To remove possible ambiguities, the following working definitions of the terms are offered.

ADEMIC FIELDS/SUBJECT AREAS/DISCIPLINES

Academic fields categorise recognisable and coherent domains or the scope of study such as Mathematics, Medicine, Engineering and Philosophy. Fields that have a wide scope are often subdivided; for example, Humanities include subjects like History and Literature and Arts may include separate disciplines of Fine Arts and Photography. The curriculum of some programmes may combine academic fields, or may include different subjects and disciplines such as Mathematics in Engineering or Accountancy in Business Administration.

ACADEMIC STANDARDS

Specific standards decided by the institution, and informed by external reference points. They include the minimum or threshold level of knowledge and skills to be gained by the graduates from the programme, and can be used in evaluation and review.

ACCREDITATION

The recognition accorded by an agency or other organisation to either an education programme or to an institution to confirm that it can demonstrate that the programme(s) meet acceptable standards and that the institution has effective systems to ensure the quality and continuing improvement of its academic activities, according to published criteria.

ACTION OR IMPROVEMENT PLANS

Realistic plans for improvement derived from the consideration of available evidence and evaluations; they may be implemented for more than one year, but should be prepared and reviewed annually at each level of courses, programmes and the institution.

ADMITTED STUDENTS

Students registered on a programme, including those accepted holding prior credits for admission after year 1.

BENCHMARK/REFERENCE POINTS

Benchmark statements represent general expectations about the standards of achievement and general attributes to be expected of a graduate in a given academic field or subject. Reference standards may be external or internal. External reference points allow comparison of the academic standards and quality of a programme with equivalent programmes in Iraq and internationally. Internal reference points may be used to compare one academic field with another, or to identify trends over a given time period.

COMMUNITY

A defined segment of wider society served by the institution, as determined in its mission and bylaws. It may be defined geographically or in terms of the range of organizations, groups and individuals engaged in its activities.

COURSE AIMS

Overall course aims should be expressed as the outcomes to be achieved by students completing the course as significant and assessable qualities. They should contribute to the achievement of defined aims within one or more education programmes.

CURRICULUM OR (IN THE PLURAL) CURRICULA

The complete organised learning as designed and managed by an institution for an admitted student, determined by the intended learning outcomes (ILOs) and comprising the content, the arrangements for teaching and learning and assessments of students' achievements together with the access to the range of facilities available within the University and, by arrangement, outside it, including libraries, computers studies, social, sports, internships and field studies.

DIRECTED SELF-LEARNING/INDEPENDENT LEARNING

The active promotion of personal skills included in the curriculum that support the student and graduate to seek, assimilate and learn from a range of structured and unstructured experiences. Methods of promotion include e-learning, personal and autonomous learning and fieldwork, assignments, internships, and reflexive learning. Devices commonly used that support directed self-learning beyond formal teaching lectures include logbooks, self-assessment reports, interactive learning tools or the equivalent.

E-LEARNING

Electronic-based learning using information technology may be the primary or secondary element in material associated with a programme or a course. It may be stand-alone or integrated with other teaching and learning approaches. It may include self-determination of aims, ILOs and materials using self-selection and will usually include self-assessment. It generally increases the levels of autonomy in, and responsibility for, learning. Converting existing texts or lecture notes to a website or pre-recorded media alone is generally not considered to be e-learning.

EXTERNAL EVALUATOR/EVALUATION

An appointment to a specific programme, part of a programme or course(s) by the institution to establish an independent and external professional opinion on the academic standards set and achieved in the examinations for the award of the degree.

FRAMEWORK FOR EVALUATION

The framework for evaluation provides a standard structure for evaluation of programmes. It will form the basis for self-evaluation, the site visit by external peer reviewers and the Programme Review report. It is designed to operate in all academic fields and institutions, and to apply to internal and external reviews.

GENERAL PRECEPTS/BY-LAWS

Principles, by-laws and regulations, which the educational institution must have as part of the policies covering its operations.

HIGHER EDUCATION INSTITUTE (HEI)/INSTITUTION

A Faculty, College or University providing higher education programmes leading to a first university degree (B.Sc. or B.A.) or a higher degree.

INTENDED LEARNING OUTCOMES (ILOS)

The ILOs are the outcome-related definition of knowledge, understanding and skills which the institution intends for its programmes. They should be mission-related, capable of measurement (assessable) and reflect the use of external reference standards at appropriate level.

INTERNAL SYSTEM FOR QUALITY MANAGEMENT AND ASSURANCE

The system adopted by the institution to ensure that its education programmes and contributing elements meet specified needs and are continually reviewed and improved. An outcomes-related system of quality management involves precise specifications for quality from design to delivery; evaluation; the identification of good practice as well as of learning deficiencies and obstacles; performance follow-up; suggestions for development and enhancement; and the systematic review and development of processes for establishing effective policies, strategies and priorities to support continuing improvement.

JOB/LABOUR MARKET

The availability of professional, commercial, research-oriented or other fields of employment that a graduate is qualified to join upon graduation.

MISSION STATEMENT

A brief statement clearly identifying the educational institution's duty and its role in the development of the community; a mission statement may also offer brief supporting statements on the vision, values and strategic objectives of the institution.

PEER REVIEWER

A person who is professionally equal in calibre and with management and/or subject expertise to those delivering the provision, but not from the same institution and without any conflict of interest, who can contribute to the review of an education programme for internal and external quality assurance or for accreditation purposes.

PROGRAMME

For the purpose of Programme Review an education programme is defined as one which admits students who, on successful completion, receive an academic award.

PROGRAMME AIMS

The broad purposes for providing the programme which in turn guide the development and implementation of strategic objectives (to ensure that the aims are met) and ILOs (to ensure that the students work towards attaining the specified outcomes).

PROGRAMME REVIEW

Programme Review applies to all education programmes in all higher education institutions. Where the programme is studied in more than one institution, the whole programme is included in Programme Review. Programme Review in Iraq has three objectives:

1) To provide decision-makers (in the higher education institutions, Quality Assurance and Academic Accreditation Directorate , parents, students, and other stakeholders) with evidence-based judgements on the quality of learning programmes

2) To support the development of internal quality assurance processes with information on emerging good practice and challenges, evaluative comment and continuing improvement

3) To enhance the reputation of Iraq's higher education internationally.

QUALITY ASSURANCE

The institution has the means of assuring that for each education programme, academic standards are defined and achieved in line with equivalent national and international standards, that the quality of the curriculum and related infrastructure are appropriate and fulfil the expectations of the range of stakeholders, that its graduates represent the range of attributes specified and that the organisation is capable of sustained, continuing improvement.

REVIEW COORDINATOR

The nominee of an institution to coordinate a Programme Review to assist in the gathering and interpretation of information and to support the application of published methods of review.

REPORT

The regular reports prepared on the basis of Programme Reviews and evaluations of its education programme.

SELF-EVALUATION

n institution's process of evaluating a programme as part of Programme Review and within an internal system of quality management and assurance.

SITE VISIT

A scheduled visit by external peer reviewers as part of Programme Review. Normally the site visit will be for two or three days. A typical outline timetable is provided in Appendix(1).

SPECIFICATION

The detailed description of the aims, construction and intended outcomes of a programme, and any courses, specific facilities or resources that contribute to it. The specification provides information to design, manage, deliver and review the programme.

STAKEHOLDER

Those organisations, groups or individuals which have a legitimate interest in the educational activities of the institution both in respect of the quality and standards of the education and also in respect of the effectiveness of the systems and processes for assuring the quality. An effective strategic review process will include the key stakeholder groups. The precise range of stakeholder groups and their differentiated interests depend upon the mission of the institution, its range of educational activities and local circumstances. The range is usually defined by a scoping study. Examples of groups with a legitimate interest include current students, graduates, intending students and their parents or family, staff in the institution, the employing community, the relevant Government ministries, the sponsors and other funding organisations and, where appropriate, professional organisations or syndicates.

STRATEGIC OBJECTIVES/PLANS
A collection of institution-specific objectives that are derived from its mission and developed into a realistic plan based on evidence-based evaluations. Objectives concentrate on the means by which an institution seeks to deliver its mission. The plan sets out the matters to be addressed, timeframe, person responsible and estimate of costs, and is accompanied by an implementation plan with arrangements for monitoring the progress and evaluating impact.

STUDENTS' ASSESSMENT
A set of processes, including examinations and other activities conducted by the institution to measure the achievement of the intended learning outcomes of a programme and its courses. Assessments also provide the means by which students are ranked according to their achievement. Diagnostic assessment seeks to determine the existing range of knowledge and skills of a student with a view to constructing an appropriate curriculum. Formative assessment provides information on the student's performance and progress to support further learning, without necessarily counting a grade towards graduation. Summative assessment determines the final level of attainment of the student on the programme or at the end of a course that contributes credits to the programme.

STUDENTS' EVALUATIONS
The systematic gathering of students'opinions on the quality of their programme in a standardized structure together with the analysis and outcomes. Surveys using questionnaires are the most frequently used methods to collect opinions; other mechanisms include websites conferences, panels or focus groups, and representation on councils or other committees.

TEACHING AND LEARNING METHODS
The range of methods used by teachers to help students to achieve the ILOs for the course.
Examples include: lectures, small group teaching such as tutorials, seminars and syndicate groups; a case study to teach students how to analyse information and reach a decision; assignments such as writing a review paper for the students to gain the skills of self-learning and presentation; field trips; practical sessions for the students to gain practical skills; and carrying out experiments to train the students to analyse the results, reach specific conclusions and prepare a report, presentation or poster.

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	
2. University Department/Centre	
3. Programme Title	
4. Title of Final Award	
5. Modes of Attendance offered	
6. Accreditation	
7. Other external influences	
8. Date of production/revision of this specification	
9. Aims of the Programme	

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Knowledge and Understanding
  A1.
  A2.
  A3.
  A4.
  A5.
  A6.

B. Subject-specific skills
  B1.
  B2.
  B3.

Teaching and Learning Methods
Assessment methods

C. Thinking Skills
  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

Strength of materials for 2nd year

COURSE SPECIFICATION

This Course Specification provides the main features of the strength of materials for the students of 2nd year in the department of Production Engineering & Metallurgy. Learning outcomes which gained by the program will help a typical students to achieve and demonstrate the learning opportunities that are provided during the course study and comply with course specification.

1. Teaching Institution	University of Technology
2. University Department/Centre	Department of production & Metallurgy/ University of Technology
3. Course title/code	Strength of material
4. Programme(s) to which it contributes	Production engineering
5. Modes of Attendance offered	Complete Hours
6. Semester/Year	1st & 2nd semester / year
7. Number of hours tuition (total)	2 hr /w theory ,1 hr/w tutorial 1 hr/w Lab, 4 hr*30=120 hr/year
8. Date of production/revision of this specification	18-5-2014

9. Aims of the Course
   The aims which can be achieved during teaching this course program are as follows:
   Introduces the fundamental concepts in strength of materials and learning students the fundamentals and types such as Normal stresses in tension & compression, Simple stress, Tensile Stress , Compression Stress , Shearing Stresses, Bearing Stresses, Thin Walled Cylinders , Srain, Hook's law , poisons ratio, statically indeterminate members, thermal stresses, Torsion ,flanged bolt couplings, Thin-walled tubes, Helical springs, Shear and moment in beams, Shear and moment diagrams , Relation between Load , Shear , and moment,

Stresses in beams, Derivation of flexure formula, Beam deflections, Double integration method, Area – Moment Method, Combined stresses, Combined axial and flexural stresses, Mohr's Circle of normal stresses, shear stresses , strain, flexural stresses, shear and moment diagrams of loaded beams , Mohr's circle.

10· Learning Outcomes, Teaching ,Learning and Assessment Methode

A- Knowledge and Understanding
A1. Learning the basics of stresses and strains.
A2. Learning the torsion and shear stress & strain.
A3. Learning the shear and moment diagrams in beams.
A4. Learning the deflection of beams.
A5. Learning Mohr's circle.

B. Subject-specific skills
B1. Lectures
B2. Tutorials

Teaching and Learning Methods

1-Lectures and explanations
2-Discussion and exercises

Assessment methods

1-Examination.
2-Quizzes.
3-Exercises.
4-Home works.

C. Thinking Skills
C1. Information gathering and analysis, method of decision making.
C2. work as a group and survey

Teaching and Learning Methods

1-Literatures.
2-Exercises.

Assessment methods

1-Test1.
2- Test2.
3- Quizzes and Assignments.
4- Final Examination.

D. General and Transferable Skills (other skills relevant to employability and personal development)
D1.Solution of different problems as applications.

11. Course Structure

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	4	**a, c, e, d, h, k**	Normal stresses in torsion & compression	Lectures	Examinations, quizzes, discussions
2	4	**a, c, e, d, h, k**	Simple stress	Lectures	Examinations, quizzes, discussions
3	4	**a, c, e, d, h, k**	Tensile stress	Lectures	Examinations, quizzes, discussions
4	4	**a, c, e, d, h, k**	Compression stress	Lectures	Examinations, quizzes, discussions
5	4	**a, c, e, d, h, k**	Problems	Lectures	Examinations, quizzes, discussions
6	4	**a, c, e, d, h, k**	Shearing stress	Lectures	Examinations, quizzes, discussions
7	4	**a, c, e, d, h, k**	Bearing stress	Lectures	Examinations, quizzes, discussions
8	4	**a, c, e, d, h, k**	Thin-walled cylinders	Lectures	Examinations, quizzes, discussions
9	4	**a, c, e, d, h, k**	Problems	Lectures	Examinations, quizzes, discussions
10	4	**a, c, e, d, h, k**	Problems	Lectures	Examinations, quizzes, discussions
11	4	**a, c, e, d, h, k**	Strain , Hook's law	Lectures	Examinations, quizzes, discussions
12	4	**a, c, e, d, h, k**	Poison's ration	Lectures	Examinations, quizzes, discussions
13	4	**a, c, e, d, h, k**	Statically indeterminate members	Lectures	Examinations, quizzes, discussions
14	4	**a, c, e, d, h, k**	Thermal stresses	Lectures	Examinations, quizzes, discussions
15	4	**a, c, e, d, h, k**	Torsion, flanged bolt couplings	Lectures	Examinations, quizzes, discussions
16	4	**a, c, e, d, h, k**	Thin walled tubes	Lectures	Examinations, quizzes, discussions
17	4	**a, c, e, d, h, k**	Helical springs	Lectures	Examinations, quizzes, discussions
18	4	**a, c, e, d, h, k**	Shear and moment in beam	Lectures	Examinations, quizzes, discussions
19	4	**a, c, e, d, h, k**	Shear and moment diagrams	Lectures	Examinations, quizzes, discussions
20	4	**a, c, e, d, h, k**	Relation between load, shear and moment	Lectures	Examinations, quizzes, discussions
21	4	**a, c, e, d, h, k**	problems	Lectures	Examinations, quizzes, discussions
22	4	**a, c, e, d, h, k**	Stresses in beams	Lectures	Examinations, quizzes, discussions

23	4	**a, c, e, d, h, k**	Derivation of flexure formula	Lectures	Examinations, quizzes, discussions
24	4	**a, c, e, d, h, k**	Problems	Lectures	Examinations, quizzes, discussions
25	4	**a, c, e, d, h, k**	Beam deflection	Lectures	Examinations, quizzes, discussions
26	4	**a, c, e, d, h, k**	Double integration method	Lectures	Examinations, quizzes, discussions
27	4	**a, c, e, d, h, k**	Area-moment method	Lectures	Examinations, quizzes, discussions
28	4	**a, c, e, d, h, k**	Combined stresses	Lectures	Examinations, quizzes, discussions
29	4	**a, c, e, d, h, k**	Combined axial and flexural stresses	Lectures	Examinations, quizzes, discussions
30	4	**a, c, e, d, h, k**	Mohr's circle	Lectures	Examinations, quizzes, discussions

12. Infrastructure	
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	1- Strength of material. By: Ferdinand L. singer
Special requirements (include for example workshops, periodicals, IT software, websites)	Strength of materials software and internet websites
Community-based facilities (include for example, guest Lectures , internship , field studies)	N/A

13. Admissions	
Pre-requisites	Pass from last stage (year).
Minimum number of students	No limit.
Maximum number of students	No limit.

TEMPLATE FOR TYPICAL SITE VISIT CHEDULE

1. The typical site visit schedule is designed for two or three days. It includes pre-arranged meetings. The responsibility for arranging these meetings and fitting the template to the circumstances rests with the Universities Quality Assurance and University Performance departments

2. Site visits will normally commence at 09:00 on day 1. Start times of pre-arranged meetings are indicated. Pre-arranged meetings should not normally last more than one hour. The schedule should not completely fill all times with meetings, but leave space for additional activities by peer reviewers including preparing for meetings, updating notes and records and drafting paragraphs for the draft Programme Review report

Table (1)

Session	Time	Activity
Day 1		
1	09:00	Welcome and introductions; brief introduction to the review (purposes, intended outcomes, use of evidence and self-evaluation report) – Programme Team
2	09:30	Curriculum; discussion with faculty members
3	11:00	Meeting with a group of students
4	12:30	Efficiency: tour of resources
5	14:00	Review panel meeting: scrutiny of additional documentation including sample of students' assessed work
6	15:00	Efficiency: meeting with faculty members
7	16:00	Review panel meeting: review of the evidence and any gaps or matters to follow-up
8	17:00	Meeting with external stakeholders (sample of graduates, employers, other partners)
Day 2		
9	08:45	Review meeting with review chairperson, review coordinator, programme leader: summary of day 1 findings, addressing any gaps, adjust the schedule for day 2 if required
10	09:00	Academic standards: meeting with faculty members
11	10:30	Effectiveness of quality management and assurance: meeting with faculty members
12	12:00	Review panel meeting: review of evidence and any matters still to be addressed
13	14:00	Flexible time to pursue any matters arising
14	14:30	Review panel final meeting: decisions on outcomes and drafting oral feedback
15	16:30	Oral feedback by review chairperson to review coordinator and faculty members

	17:00	Close

TEMPLATE FOR THE FOLLOW-UP PROCESS AND REPORT, AND OUTLINE OF TYPICAL SITE VISIT SCHEDULE FOR FOLLOW-UP

TEMPLATE FOR FOLLOW-UP REPORT

Quality Assurance and Academic Accreditation Directorate / International Accreditation Department.

Institution:

Faculty:

Programme:

Follow-up Report

1. This report presents the findings of the follow-up visit, which took place on /   /20__. This is part of the Universities Quality Assurance and University Performance departments arrangements to provide continuing support for the development of internal quality assurance processes and continuing improvement

2. The purposes of the follow-up review are to assess the progress made in the programme since the Programme Review report, and to provide further information and support for the continuing improvement of academic standards and quality of higher education in Iraq.

3. The evidence base used in this follow-up review and report includes:
   a) Self-Evaluation Report for the programme together with supporting information
   b) Improvement plan prepared and implemented since the Programme Review report
   c) Programme Review Report
   d) Higher Education Quality Review Report and institutional strategic plan (if any)
   e) Additional evidence presented during the follow-up visit.

4. The overall conclusions reached as the outcome of the follow-up review are as follows:
   a) The programme (give title) at (give name of institution) has/has not successfully implemented an improvement plan.
   b) Good practice in the indicators demonstrated since the Programme Review site visit includes: (insert)
   c) Matters of particular importance that should be addressed by the institution in its continuing improvement of the programme are: (insert and indicate if they are, or as yet are not, addressed by the improvement plan).

5. The detailed report is provided in Annexure A below.

Annexure A

Name of Institution_____

Date of initial Programme Review site visit_____

Date visited in follow-up   _____

Date of follow-up report   _____

Names of follow-up reviewers   Position/title   Signed

Part 1: The Internal Quality Assurance System in operation				
	Questions	**Yes?** (√)	**Comment**	**Further action required?**
1	Is the programme Self- Evaluation Report complete?			
2	Do the most recent self-evaluation reports indicate the extent to which the criteria in the Framework for Evaluation are met and/or are being addressed?			
3	Is there an improvement plan in place, informed by external and internal review?			
4	Are there any major gaps that appear not to be addressed?			
5	Is progress with the improvement plan monitored?			
6	Are there any major obstacles to the expected achievementof the improvement plan?			
7	What is the institution's estimate of the time needed to complete improvements to the programme?			
8	What is the reviewers' assessment of the time needed to complete improvements to the programme that would demonstrate the indicators?			

Part 2: Progress demonstrated with the indicators			
Indicators (refer to Framework of Evaluation)	Improvement plan points (comment on match with the Programme Review report's recommendations)	New information from follow-up site visit	Overall Conclusion
Curriculum Aims and ILOs Syllabus (content) Progression year on year Teaching and Learning Student assessment			
Efficiency Profile of admitted students Human resources Physical resources Uses made of available resources Student support Ratios of graduation to admitted students			
Academic Standards Clearly articulated standards Use of appropriate benchmarks Achievement of graduates Standards of students' assessed work			
Programme management and Assurance Arrangements for programme management Policies and procedures applied Structured comments collected and used Staff development needs identified and addressed Improvement planning processes working			

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    i.   The programme being reviewed is supported by existing or developing internal systems including specifications and review with a culture of self-evaluation and continuing improvement. These features of internal review provide a sound basis for the external review.

    ii.   The timing of the external review is appropriate.

    iii.   The profile of the visiting peer review panel matches in broad terms the profile of the academic activities in the institution.

    iv.   There is due attention to detail in planning and preparation, by -

        a.   The Quality Assurance and Academic Accreditation Directorate applies consistently its procedures for working with the institution and the reviewers and provides appropriate support for the external review as required

        b.   The review coordinator: ensures that the evidence base generated by internal review and reporting systems is available on time to the visiting peer reviewers, and any requirements for clarification and supplementary information are satisfied

        c.   The institution: provides a self-evaluation report for the programme to be externally reviewed

        d.   The peer reviewers: undertake their preparation for the visit including reading the advance documentation and preparing initial commentaries that inform the conduct of the visit

    v.   There is consistency in the application of the published review method and the protocols by all participants in a way that respects and supports the mission and philosophy of the overall process for continuing review and continuing improvement.

    vi.   Reviewers and representatives of the institution conduct an open dialogue throughout the review that shows mutual respect.

    vii.   The judgements reached by the reviewers are clear, based on the evidence available and systematically recorded.

    viii.   The review report is produced on time in line with the standard report structure and is confirmed by the institution to be factually accurate.

    ix.   The set of conclusions arising from the review are constructive, offering a fair and balanced view of the programme.

    x.   The institution is able to benefit from the external review by giving due reflection and consideration to the findings and preparing where appropriate a realistic improvement plan

EVALUATION

2. The Quality Assurance and Academic Accreditation Directorate wishes to establish and implement procedures for the systematic evaluation of all external Programme Reviews arranged by it. The institution, the review chairperson and the peer reviewers will all routinely be asked to evaluate each external review by completing a short questionnaire. The structured comments will be analysed by the Quality Assurance and Academic Accreditation Directorate and where necessary the Quality Assurance and Academic Accreditation Directorate will take action to follow-up any difficulties highlighted. In addition, the Quality Assurance and Academic Accreditation Directorate will collate the structured comments to compile regular summary reports indicating the main features of the review process in practice, including the overall levels of satisfaction expressed by the participants, together with examples of good practice and opportunities for continuing improvement.

GLOSSARY OF TERMS IN PROGRAMME REVIEW

DEFINITIONS OF TERMS USED IN THE PROGRAMME REVIEW HANDBOOK

Some of the terms used in the Handbook and/or used in internal and external review and reporting may have different meanings according to the context in which they are used. To remove possible ambiguities, the following working definitions of the terms are offered.

ADEMIC FIELDS/SUBJECT AREAS/DISCIPLINES

Academic fields categorise recognisable and coherent domains or the scope of study such as Mathematics, Medicine, Engineering and Philosophy. Fields that have a wide scope are often subdivided; for example, Humanities include subjects like History and Literature and Arts may include separate disciplines of Fine Arts and Photography. The curriculum of some programmes may combine academic fields, or may include different subjects and disciplines such as Mathematics in Engineering or Accountancy in Business Administration.

ACADEMIC STANDARDS

Specific standards decided by the institution, and informed by external reference points. They include the minimum or threshold level of knowledge and skills to be gained by the graduates from the programme, and can be used in evaluation and review.

ACCREDITATION

The recognition accorded by an agency or other organisation to either an education programme or to an institution to confirm that it can demonstrate that the programme(s) meet acceptable standards and that the institution has effective systems to ensure the quality and continuing improvement of its academic activities, according to published criteria.

ACTION OR IMPROVEMENT PLANS

Realistic plans for improvement derived from the consideration of available evidence and evaluations; they may be implemented for more than one year, but should be prepared and reviewed annually at each level of courses, programmes and the institution.

ADMITTED STUDENTS

Students registered on a programme, including those accepted holding prior credits for

admission after year 1.

BENCHMARK/REFERENCE POINTS
Benchmark statements represent general expectations about the standards of achievement and general attributes to be expected of a graduate in a given academic field or subject. Reference standards may be external or internal. External reference points allow comparison of the academic standards and quality of a programme with equivalent programmes in Iraq and internationally. Internal reference points may be used to compare one academic field with another, or to identify trends over a given time period.

COMMUNITY
A defined segment of wider society served by the institution, as determined in its mission and bylaws. It may be defined geographically or in terms of the range of organizations, groups and individuals engaged in its activities.

COURSE AIMS
Overall course aims should be expressed as the outcomes to be achieved by students completing the course as significant and assessable qualities. They should contribute to the achievement of defined aims within one or more education programmes.

CURRICULUM OR (IN THE PLURAL) CURRICULA
The complete organised learning as designed and managed by an institution for an admitted student, determined by the intended learning outcomes (ILOs) and comprising the content, the arrangements for teaching and learning and assessments of students' achievements together with the access to the range of facilities available within the University and, by arrangement, outside it, including libraries, computers studies, social, sports, internships and field studies.

DIRECTED SELF-LEARNING/INDEPENDENT LEARNING
The active promotion of personal skills included in the curriculum that support the student and graduate to seek, assimilate and learn from a range of structured and unstructured experiences. Methods of promotion include e-learning, personal and autonomous learning and fieldwork, assignments, internships, and reflexive learning. Devices commonly used that support directed self-learning beyond formal teaching lectures include logbooks, self-assessment reports, interactive learning tools or the equivalent.

E-LEARNING
Electronic-based learning using information technology may be the primary or secondary element in material associated with a programme or a course. It may be stand-alone or integrated with other teaching and learning approaches. It may include self-determination of aims, ILOs and materials using self-selection and will usually include self-assessment. It generally increases the levels of autonomy in, and responsibility for, learning. Converting existing texts or lecture notes to a website or pre-recorded media alone is generally not considered to be e-learning.

EXTERNAL EVALUATOR/EVALUATION
An appointment to a specific programme, part of a programme or course(s) by the institution

to establish an independent and external professional opinion on the academic standards set and achieved in the examinations for the award of the degree.

FRAMEWORK FOR EVALUATION

The framework for evaluation provides a standard structure for evaluation of programmes. It will form the basis for self-evaluation, the site visit by external peer reviewers and the Programme Review report. It is designed to operate in all academic fields and institutions, and to apply to internal and external reviews.

GENERAL PRECEPTS/BY-LAWS

Principles, by-laws and regulations, which the educational institution must have as part of the policies covering its operations.

HIGHER EDUCATION INSTITUTE (HEI)/INSTITUTION

A Faculty, College or University providing higher education programmes leading to a first university degree (B.Sc. or B.A.) or a higher degree.

INTENDED LEARNING OUTCOMES (ILOS)

The ILOs are the outcome-related definition of knowledge, understanding and skills which the institution intends for its programmes. They should be mission-related, capable of measurement (assessable) and reflect the use of external reference standards at appropriate level.

INTERNAL SYSTEM FOR QUALITY MANAGEMENT AND ASSURANCE

The system adopted by the institution to ensure that its education programmes and contributing elements meet specified needs and are continually reviewed and improved. An outcomes-related system of quality management involves precise specifications for quality from design to delivery; evaluation; the identification of good practice as well as of learning deficiencies and obstacles; performance follow-up; suggestions for development and enhancement; and the systematic review and development of processes for establishing effective policies, strategies and priorities to support continuing improvement.

JOB/LABOUR MARKET

The availability of professional, commercial, research-oriented or other fields of employment that a graduate is qualified to join upon graduation.

MISSION STATEMENT

A brief statement clearly identifying the educational institution's duty and its role in the development of the community; a mission statement may also offer brief supporting statements on the vision, values and strategic objectives of the institution.

PEER REVIEWER

A person who is professionally equal in calibre and with management and/or subject expertise to those delivering the provision, but not from the same institution and without any conflict of

interest, who can contribute to the review of an education programme for internal and external quality assurance or for accreditation purposes.

PROGRAMME

For the purpose of Programme Review an education programme is defined as one which admits students who, on successful completion, receive an academic award.

PROGRAMME AIMS

The broad purposes for providing the programme which in turn guide the development and implementation of strategic objectives (to ensure that the aims are met) and ILOs (to ensure that the students work towards attaining the specified outcomes).

PROGRAMME REVIEW

Programme Review applies to all education programmes in all higher education institutions. Where the programme is studied in more than one institution, the whole programme is included in Programme Review. Programme Review in Iraq has three objectives:

1) To provide decision-makers (in the higher education institutions, Quality Assurance and Academic Accreditation Directorate , parents, students, and other stakeholders) with evidence-based judgements on the quality of learning programmes
2) To support the development of internal quality assurance processes with information on emerging good practice and challenges, evaluative comment and continuing improvement
3) To enhance the reputation of Iraq's higher education internationally.

QUALITY ASSURANCE

The institution has the means of assuring that for each education programme, academic standards are defined and achieved in line with equivalent national and international standards, that the quality of the curriculum and related infrastructure are appropriate and fulfil the expectations of the range of stakeholders, that its graduates represent the range of attributes specified and that the organisation is capable of sustained, continuing improvement.

REVIEW COORDINATOR

The nominee of an institution to coordinate a Programme Review to assist in the gathering and interpretation of information and to support the application of published methods of review.

REPORT

The regular reports prepared on the basis of Programme Reviews and evaluations of its education programme.

SELF-EVALUATION

n institution's process of evaluating a programme as part of Programme Review and within an internal system of quality management and assurance.

SITE VISIT

A scheduled visit by external peer reviewers as part of Programme Review. Normally the site visit will be for two or three days. A typical outline timetable is provided in Appendix(1).

SPECIFICATION

The detailed description of the aims, construction and intended outcomes of a programme, and any courses, specific facilities or resources that contribute to it. The specification provides information to design, manage, deliver and review the programme.

STAKEHOLDER

Those organisations, groups or individuals which have a legitimate interest in the educational activities of the institution both in respect of the quality and standards of the education and also in respect of the effectiveness of the systems and processes for assuring the quality. An effective strategic review process will include the key stakeholder groups. The precise range of stakeholder groups and their differentiated interests depend upon the mission of the institution, its range of educational activities and local circumstances. The range is usually defined by a scoping study. Examples of groups with a legitimate interest include current students, graduates, intending students and their parents or family, staff in the institution, the employing community, the relevant Government ministries, the sponsors and other funding organisations and, where appropriate, professional organisations or syndicates.

STRATEGIC OBJECTIVES/PLANS

A collection of institution-specific objectives that are derived from its mission and developed into a realistic plan based on evidence-based evaluations. Objectives concentrate on the means by which an institution seeks to deliver its mission. The plan sets out the matters to be addressed, timeframe, person responsible and estimate of costs, and is accompanied by an implementation plan with arrangements for monitoring the progress and evaluating impact.

STUDENTS'ASSESSMENT

A set of processes, including examinations and other activities conducted by the institution to measure the achievement of the intended learning outcomes of a programme and its courses. Assessments also provide the means by which students are ranked according to their achievement. Diagnostic assessment seeks to determine the existing range of knowledge and skills of a student with a view to constructing an appropriate curriculum. Formative assessment provides information on the student's performance and progress to support further learning, without necessarily counting a grade towards graduation. Summative assessment determines the final level of attainment of the student on the programme or at the end of a course that contributes credits to the programme.

STUDENTS' EVALUATIONS

The systematic gathering of students'opinions on the quality of their programme in a standardized structure together with the analysis and outcomes. Surveys using questionnaires are the most frequently used methods to collect opinions; other mechanisms include websites conferences, panels or focus groups, and representation on councils or other committees.

TEACHING AND LEARNING METHODS

The range of methods used by teachers to help students to achieve the ILOs for the course. Examples include: lectures, small group teaching such as tutorials, seminars and syndicate groups; a case study to teach students how to analyse information and reach a decision; assignments such as writing a review paper for the students to gain the skills of self-learning and presentation; field trips; practical sessions for the students to gain practical skills; and carrying out experiments to train the students to analyse the results, reach specific conclusions and prepare a report, presentation or poster.

TEMPLATE FOR COURSE SPECIFICATION

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 Technology
2. University Department/Centre	Department of Production Engineering & Metallurgy
3. Course title/code	Machine Design
4. Programme(s) to which it contributes	Machine Design Engineering
5. Modes of Attendance offered	Complete Hours
6. Semester/Year	1st&2^{nd}Semester / Year
7. Number of hours tuition (total)	Two Hours / Week 2H X30W=60H/Year
8. Date of production/revision of this specification	2015
9. Aims of the Course	

The basic of machine design concepts such as Failures Resulting from Static Loading, Selection of Failure Criteria, Fatigue Failure Resulting from Variable Loading, The endurance Limit, Fluctuating Stresses, Shafts and Shaft Components, Keys, Splines, Setscrews, Pins, Press or shrink fits,

Tapered fits, Screws, Fasteners, and the Design of Nonpermanent Joints, power screws, Bolted and Riveted Joints, Welding, Bonding, and the Design of Permanent Joints , Welding Symbols, Stresses in Welded Joints, Mechanical Springs, Stresses in Helical Springs, Rolling−Contact Bearings, Bearing Types, Lubrication and Journal Bearings, Types of Lubrication viscosity, Gears, The Forming of Gear Teeth, Tooth Systems, Spur and Helical Gears, Bevel and Worm Gears, Gear Trains, Clutches and Brakes and Couplings and Flywheels

10· Learning Outcomes, Teaching ,Learning and Assessment Methode

A- Knowledge and Understanding

Enabling student to get the knowledge and understanding of the theoretical principles of machine design for different Industrial systems.

B. Subject-specific skills
B1.Literatures
B2. Tutorials
B3. Laboratory and performing some Experiments .

Teaching and Learning Methods
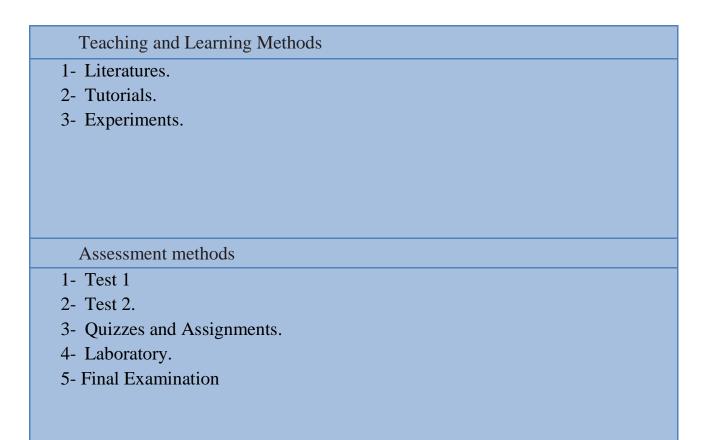
1- Practical experiments.
2- Solving problems.
3- Programmers.

Assessment methods

1- Examinations.
2- Quizzes.
3- Home works.
4- Tutorials and discussions.

C. Thinking Skills
C1. Reports.
C2. Certain Machine Design problem analysis.
C3. Technical information collection for Machine Design problem.
C4. Research and collection data

Teaching and Learning Methods
1- Literatures. 2- Tutorials. 3- Experiments.
Assessment methods
1- Test 1 2- Test 2. 3- Quizzes and Assignments. 4- Laboratory. 5- Final Examination

D. General and Transferable Skills (other skills relevant to employability and personal development) Solution of different Machine Design systems for industrial Applications.

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1.	2+1	**a, c, e, d, h, k**	Introduction to Machine Design	Lecture &p.p Show.	Examinations, Quizzes, and Reports.
2.	2+1	**a, c, e, d, h, k**	Type of load	Lecture &p.p Show.	Examinations, Quizzes, and Reports.
3.	2+1	**a, c, e, d, h, k**	Stress analysis	Lecture &p.p Show.	Examinations, Quizzes, and Reports.
4.	2+1	**a, c, e, d, h, k**	Compound stresses	Lecture &p.p Show.	Examinations, Quizzes, and Reports.
5.	2+1	**a, c, e, d, h, k**	Stress concentration	Lecture &p.p Show.	Examinations, Quizzes, and Reports.
6.	2+1	**a, c, e, d, h, k**	Failures resulting from static loading	Lecture &p.p Show.	Examinations, Quizzes, and Reports.
7.	2+1	**a, c, e, d, h, k**	Selection of failures criteria	Lecture &p.p Show.	Examinations, Quizzes, and Reports.
8.	2+1	**a, c, e, d, h, k**	The endurance limit	Lecture &p.p Show.	Examinations, Quizzes, and Reports.
9.	2+1	**a, c, e, d, h, k**	Fluctuating stresses	Lecture &p.p Show.	Examinations, Quizzes, and Reports.
10.	2+1	**a, c, e, d, h, k**	Shafts and shaft components	Lecture &p.p Show.	Examinations, Quizzes, and Reports.
11.	2+1	**a, c, e, d, h, k**	Keys	Lecture &p.p Show.	Examinations, Quizzes, and Reports.
12.	2+1	**a, c, e, d, h, k**	Splines	Lecture &p.p Show.	Examinations, Quizzes, and Reports.
13.	2+1	**a, c, e, d, h, k**	Pins	Lecture &p.p Show.	Examinations, Quizzes, and Reports.
14.	2+1	**a, c, e, d, h, k**	Power screws	Lecture &p.p Show.	Examinations, Quizzes, and Reports.
15.	2+1	**a, c, e, d, h, k**	Bolted	Lecture &p.p Show.	Examinations, Quizzes, and Reports.
16.	2+1	**a, c, e, d, h, k**	Riveted joints	Lecture &p.p Show.	Examinations, Quizzes, and Reports.
17.	2+1	**a, c, e, d, h, k**	Welding symbols	Lecture &p.p Show.	Examinations, Quizzes, and Reports.
18.	2+1	**a, c, e, d, h, k**	Mechanical springs	Lecture &p.p Show.	Examinations, Quizzes, and Reports.
19.	2+1	**a, c, e, d, h, k**	Types of spring	Lecture &p.p Show.	Examinations, Quizzes, and Reports.
20.	2+1	**a, c, e, d, h, k**	Types of bearing	Lecture &p.p Show.	Examinations, Quizzes, and Reports.
21.	2+1	**a, c, e, d, h, k**	Belts	Lecture &p.p Show.	Examinations, Quizzes, and Reports.
22.	2+1	**a, c, e, d, h, k**	Couplings	Lecture &p.p Show.	Examinations, Quizzes, and Reports.

23.	2+1	**a, c, e, d, h, k**	Flange of coupling	Lecture &p.p Show.	Examinations, Quizzes, and Reports.
24.	2+1	**a, c, e, d, h, k**	Flywheels	Lecture &p.p Show.	Examinations, Quizzes, and Reports.
25.	2+1	**a, c, e, d, h, k**	Types of gear	Lecture &p.p Show.	Examinations, Quizzes, and Reports.
26.	2+1	**a, c, e, d, h, k**	Sport gear	Lecture &p.p Show.	Examinations, Quizzes, and Reports.
27.	2+1	**a, c, e, d, h, k**	Worm gear	Lecture &p.p Show.	Examinations, Quizzes, and Reports.
28.	2+1	**a, c, e, d, h, k**	Bevel gear	Lecture &p.p Show.	Examinations, Quizzes, and Reports.
29.	2+1	**a, c, e, d, h, k**	Clutch	Lecture &p.p Show.	Examinations, Quizzes, and Reports.
30.	2+1	**a, c, e, d, h, k**	Brakes	Lecture &p.p Show.	Examinations, Quizzes, and Reports.

12. Infrastructure

Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	Text books: 1. Machine Desgin, R. S. KHURMI. 2. Shigleyes Mecanical Eng. Design, Richard G. Budynas.
Special requirements (include for example workshops, periodicals, IT software, websites)	Internet web sites.
Community-based facilities (include for example, guest Lectures , internship , field studies)	Lectures

13. Admissions

Pre-requisites	Pass from last stage (year).
Minimum number of students	No limit.
Maximum number of students	No limit.

TEMPLATE FOR COURSE SPECIFICATION

Metal cutting for 3rd year class

COURSE SPECIFICATION

This Course Specification provides the main features of the metal cutting mechanics for studies of 3rd year in department of production Eng. & Metallurgy. The main object is to establish the main topics of machining of metals and its physical phenomena and other details.

1. Teaching Institution	Production branch
2. University Department/Centre	Department of production & Metallurgy/ of Technology University
3. Course title/code	Metal cutting
4. Programme(s) to which it contributes	Production engineering
5. Modes of Attendance offered	Complete Hours
6. Semester/Year	1st & 2nd semester / year
7. Number of hours tuition (total)	2hr/w theory, 1 tutorial 3*30w=90 hr/ year
8. Date of production/revision of this specification	2015

9. Aims of the Course

The aims which can be achieved during teaching this course program are as follows:

To make an overview of machining processes and Metal cutting principle & tool geometry, Ferrous Cutting tool material, Non Ferrous Cutting tool material, Chip formation & built up edge, Chip types, strain in metal cutting, Cutting forces in metal cutting , Cutting forces analysis, Measuring of cutting forces (dynamometer), Dynamometer Types Stresses on cutting tool & vibrations in metal cutting, Cutting force at drilling & milling process Heat generation in metal cutting, Theoretical calculations of heat in metal cutting, Methods of measuring cutting temperature practically, Comparison of measuring cutting tool temperature Tool wear types, Tool wear classification, Mechanism of tool wear, Tool wear craterous, Cutting tool life, Cutting tool life calculation, Machine ability of metals, Surface finish due to metal cutting, Classification of Surface finish in machining Cutting fluid, Non – conventional machining Classification, ultra sonic machining, Electric discharge machining, Water jet machining, Laser beam machining, Hybrid non-conventional machining process.

10· Learning Outcomes, Teaching ,Learning and Assessment Methode

A- Knowledge and Understanding
A1.Text books.
A2.Labrotary experiments.
A3.Softwore programs.
A4.Internet websites.
A5. Other papers and journals.

B. Subject-specific skills
B1.
B2.
B3.

Teaching and Learning Methods

1-Traditional teaching according to lectures and tutorials.
2-Experiments at metal cutting lab.
3-Experiments on specified software and programs.
4-Disscussions with groups.
5-Home work.

Assessment methods

1-Related homework reports.
2-Additional problems.

C. Thinking Skills
C1.Video explanation of recent method machining.
C2.slide – show of advanced techniques and other details.

Teaching and Learning Methods
1-The use of office programs and its advanced.
2- Make use of web sites.

Assessment methods
1-Weekly quizzes.
2- Monthly exams.
3-1st term exam, 2nd term exam.
4- Laboratory exams and reports.

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

11. Course Structure

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	2+1	**a, c, e, d, h, k**	Principles of metal cutting	lectures	Slide show + lecturing
2	2+1	**a, c, e, d, h, k**	Basic definition in metal cutting	Lectures	Slide show + lecturing
3	2+1	**a, c, e, d, h, k**	Cutting tool geometry	lectures	Slide show + lecturing
4	2+1	**a, c, e, d, h, k**	Cutting tool materials	Lectures	Slide show + lecturing
5	2+1	**a, c, e, d, h, k**	Cutting tool materials	Lectures	Slide show + lecturing
6	2+1	**a, c, e, d, h, k**	Cutting tool materials	Lectures	Slide show + lecturing
7	2+1	**a, c, e, d, h, k**	Chip formation process	Lectures	Slide show + lecturing
8	2+1	**a, c, e, d, h, k**	Theories in chip formation	Lectures	Slide show + lecturing
9	2+1	**a, c, e, d, h, k**	Relationship in mc problem	Lectures	Slide show + lecturing
10	2+1	**a, c, e, d, h, k**	Solved problems	Lectures	Slide show + lecturing
11	2+1	**a, c, e, d, h, k**	Merchant circle and cutting forces	Lectures	Slide show + lecturing
12	2+1	**a, c, e, d, h, k**	Power calculation in metal cutting	Lectures	Slide show + lecturing
13	2+1	**a, c, e, d, h, k**	Force measurement in metal cutting	Lectures	Slide show + lecturing
14	2+1	**a, c, e, d, h, k**	Dynamometer types	Lectures	Slide show + lecturing
15	2+1	**a, c, e, d, h, k**	Solved problems	Lectures	Slide show + lecturing
16	2+1	**a, c, e, d, h, k**	Heat in metal cutting	Lectures	Slide show + lecturing
17	2+1	**a, c, e, d, h, k**	Theoretical and experimental tests in heat calculations	Lectures	Slide show + lecturing
18	2+1	**a, c, e, d, h, k**	Tool wear types	Lectures	Slide show + lecturing
19	2+1	**a, c, e, d, h, k**	Tool life relations	Lectures	Slide show + lecturing
20	2+1	**a, c, e, d, h, k**	Solved problems	Lectures	Slide show + lecturing
21	2+1	**a, c, e, d, h, k**	Surface roughness in machining	Lectures	Slide show + lecturing
22	2+1	**a, c, e, d,**	Surface roughness	Lectures	Slide show +

		h, k	(iso) and its calculation		lecturing
23	2+1	**a, c, e, d, h, k**	Vibrations in machining	Lectures	Slide show + lecturing
24	2+1	**a, c, e, d, h, k**	Non-conventional mach.(general overview)	Lectures	Slide show + lecturing
25	2+1	**a, c, e, d, h, k**	Classification of non-conventional machining	Lectures	Slide show + lecturing
26	2+1	**a, c, e, d, h, k**	Mechanical types	Lectures	Slide show + lecturing
27	2+1	**a, c, e, d, h, k**	Thermal types	Lectures	Slide show + lecturing
28	2+1	**a, c, e, d, h, k**	Electro-chemical type	Lectures	Slide show + lecturing
29	2+1	**a, c, e, d, h, k**	Hybrid machining(1)	Lectures	Slide show + lecturing
30	2+1	**a, c, e, d, h, k**	Hybrid machining (2)	Lectures	Slide show + lecturing

12. Infrastructure

Required reading: · text book · ·	1-metal cutting by E.M.Trent. 2- Principles of cutting tools design by Arshirow.
Special requirements (include for example workshops, periodicals, IT software, websites)	1-metal cutting lab. 2- special soft wares available 3- Many websites available
Community-based facilities (include for example, guest Lectures , internship , field studies)	1-Group work reports. 2- Homework. 3- Additional problems.

13. Admissions

13. Admissions	
Pre-requisites	
Minimum number of students	20
Maximum number of students	50

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	
2. University Department/Centre	
3. Programme Title	
4. Title of Final Award	
5. Modes of Attendance offered	
6. Accreditation	
7. Other external influences	
8. Date of production/revision of this specification	
9. Aims of the Programme	

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Knowledge and Understanding
  A1.
  A2.
  A3.
  A4.
  A5.
  A6.

B. Subject-specific skills
  B1.
  B2.
  B3.

Teaching and Learning Methods

Assessment methods

C. Thinking Skills
  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

				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

Curriculum Skills Map

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

TEMPLATE FOR COURSE SPECIFICATION

Material selection and heat treatment for 3rd year production engineering

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 technology
2. University Department/Centre	Department of production & Metallurgy
3. Course title/code	Material selection and heat treatment
4. Programme(s) to which it contributes	Production engineering
5. Modes of Attendance offered	Complete Hours
6. Semester/Year	1st & 2nd semester / year
7. Number of hours tuition (total)	2 hr/w theory
8. Date of production/revision of this specification	2014

9. Aims of the Course

The aims which can be achieved during teaching this course program are as follows:

Introduce the fundamental concepts of materials selection and heat treatment also The relationship between design, manufacturing, material and principles, Principles of manufacturing engineering, Relationship between structure & properties, Comparison between properties & technical properties for alloys, ceramic & polymers , Decision sequences in materials selection, Classification & designation of carbon & alloy steel, Selection of properties of carbon steel, Effect of alloy element in steel Classification, properties & selection of tool steels, Classification, properties & selection of stainless steel, Selection & properties of special alloys steel, Selection & properties of cast iron, Selection & properties of alloys cast iron, Types & selection of nonferrous alloy, Classification & types of AL cast & wrought AL cast and Mechanical & heat treatment for AL alloys, Classification, types & precaution in MG – alloys, Selection of TI – alloys for creep resistances , Selection of high purity copper, Selection of Cu – alloys, Effect of impurity in selection of Zr – alloys, Selection of super alloys bases on Ni & Co , Application of P, Sn, Bi & special alloys Selection & types of eng. Ceramics, Selection & types of polymers, Theory of process heat treatment & heat treatment, Selection of heat treatment & the role of design, Strengthen mechanism of non-ferrous alloys And Heat treatment of non-ferrous alloys.

10· Learning Outcomes, Teaching ,Learning and Assessment Methode

A- Knowledge and Understanding
A1. Identify of the basic material selection and heat treatment.
A2. Understanding production & productivity.
A3. work study, control chart.

B. Subject-specific skills
B1. Lectures
B2. Tutorials and performing some experiments in laboratories.

Teaching and Learning Methods

1-Lectures and explanations.
2- Discussion and exercises.

Assessment methods

1-Test1
2- Test2
3- Quizzes and final examination

C. Thinking Skills
   C1. Examinations
   C2. Quizzes
   C3. Exercises
   C4. Home work

Teaching and Learning Methods

1-Literatares.
2- Tutorial and experiments.

Assessment methods

1-Examinations
2- Quizzes
3-Exereses
4- Home work

D. General and Transferable Skills (other skills relevant to employability and personal development)
   D1.Solution of different problems as applications.
   D2.
   D3.
   D4.

11. Course Structure

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	2	a, c, e, d, h, k	Basic five types of eng. Materials	Lecture	Examination, Quizzes and discussion
2	2	a, c, e, d, h, k	The relationship between design, manufacturing, material and principles	Lecture	Examination, Quizzes and discussion
3	2	a, c, e, d, h, k	Principles of manufacturing engineering	Lecture	Examination, Quizzes and discussion
4	2	a, c, e, d, h, k	Relationship between structure & properties	Lecture	Examination, Quizzes and discussion
5	2	a, c, e, d, h, k	Comparison between properties & technical properties for alloys, ceramic & polymers	Lecture	Examination, Quizzes and discussion
6	2	a, c, e, d, h, k	Decision sequences in materials selection	Lecture	Examination, Quizzes and discussion
7	2	a, c, e, d, h, k	Classification & designation of carbon & alloy steel	Lecture	Examination, Quizzes and discussion
8	2	a, c, e, d, h, k	Selection of properties of carbon steel	Lecture	Examination, Quizzes and discussion
9	2	a, c, e, d, h, k	Effect of alloy element in steel	Lecture	Examination, Quizzes and discussion
10	2	a, c, e, d, h, k	Classification, properties & selection of tool steels	Lecture	Examination, Quizzes and discussion
11	2	a, c, e, d, h, k	Classification, properties & selection of stainless steel	Lecture	Examination, Quizzes and discussion
12	2	a, c, e, d, h, k	Selection & properties of special alloys steel	Lecture	Examination, Quizzes and discussion
13	2	a, c, e, d, h, k	Selection & properties of cast iron	Lecture	Examination, Quizzes and discussion
14	2	a, c, e, d, h, k	Selection & properties of alloys cast iron	Lecture	Examination, Quizzes and discussion

15	2	**a, c, e, d, h, k**	Types & selection of nonferrous alloy	Lecture	Examination, Quizzes and discussion
16	2	**a, c, e, d, h, k**	Classification & types of AL cast & wrought AL cast	Lecture	Examination, Quizzes and discussion
17	2	**a, c, e, d, h, k**	Mechanical & heat treatment for AL alloys	Lecture	Examination, Quizzes and discussion
18	2	**a, c, e, d, h, k**	Classification, types & precaution in MG - alloys	Lecture	Examination, Quizzes and discussion
19	2	**a, c, e, d, h, k**	Selection of TI – alloys for creep resistances	Lecture	Examination, Quizzes and discussion
20	2	**a, c, e, d, h, k**	Selection of high purity copper	Lecture	Examination, Quizzes and discussion
21	2	**a, c, e, d, h, k**	Selection of Cu – alloys	Lecture	Examination, Quizzes and discussion
22	2	**a, c, e, d, h, k**	Effect of impurity in selection of Zr – alloys	Lecture	Examination, Quizzes and discussion
23	2	**a, c, e, d, h, k**	Selection of super alloys bases on Ni & Co	Lecture	Examination, Quizzes and discussion
24	2	**a, c, e, d, h, k**	Application of P, Sn, Bi & special alloys	Lecture	Examination, Quizzes and discussion
25	2	**a, c, e, d, h, k**	Selection & types of eng. Ceramics	Lecture	Examination, Quizzes and discussion
26	2	**a, c, e, d, h, k**	Selection & types of polymers	Lecture	Examination, Quizzes and discussion
27	2	**a, c, e, d, h, k**	Theory of process heat treatment & heat treatment	Lecture	Examination, Quizzes and discussion
28	2	**a, c, e, d, h, k**	Selection of heat treatment & the role of design	Lecture	Examination, Quizzes and discussion
29	2	**a, c, e, d, h, k**	Strengthen mechanism of non-ferrous alloys	Lecture	Examination, Quizzes and discussion
30	2	**a, c, e, d, h, k**	Heat treatment of non-ferrous alloys	Lecture	Examination, Quizzes and discussion

12. Infrastructure

Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	1. **Handbook of Materials Selection ,by Myer Kutz,John Wiley and Sons, New York ,2002** 2. **ASM Metals Handbook, Materials Selection and Design, Vol.20.** 3. **Product Design – A Materials and Processing Approach, by G.Dieter.** 4. **Handbook of Product Design for Manufacturing, by J.G.Bralla.**

Special requirements (include for example workshops, periodicals, IT software, websites)	Internet web sites
Community-based facilities (include for example, guest Lectures , internship , field studies)	Lectures

13. Admissions	
Pre-requisites	Pass from last stage (year)
Minimum number of students	No limit
Maximum number of students	No limit

TEMPLATE FOR TYPICAL SITE VISIT CHEDULE

1. The typical site visit schedule is designed for two or three days. It includes pre-arranged meetings. The responsibility for arranging these meetings and fitting the template to the circumstances rests with the Universities Quality Assurance and University Performance departments

2. Site visits will normally commence at 09:00 on day 1. Start times of pre-arranged meetings are indicated. Pre-arranged meetings should not normally last more than one hour. The schedule should not completely fill all times with meetings, but leave space for additional activities by peer reviewers including preparing for meetings, updating notes and records and drafting paragraphs for the draft Programme Review report

Table (1)

Session	Time	Activity
Day 1		
1	09:00	Welcome and introductions; brief introduction to the review (purposes, intended outcomes, use of evidence and self-evaluation report) – Programme Team
2	09:30	Curriculum; discussion with faculty members
3	11:00	Meeting with a group of students
4	12:30	Efficiency: tour of resources
5	14:00	Review panel meeting: scrutiny of additional documentation including sample of students' assessed work
6	15:00	Efficiency: meeting with faculty members
7	16:00	Review panel meeting: review of the evidence and any gaps or matters to follow-up
8	17:00	Meeting with external stakeholders (sample of graduates, employers, other partners)
Day 2		
9	08:45	Review meeting with review chairperson, review coordinator, programme leader: summary of day 1 findings, addressing any gaps, adjust the schedule for day 2 if required
10	09:00	Academic standards: meeting with faculty members
11	10:30	Effectiveness of quality management and assurance: meeting with faculty members
12	12:00	Review panel meeting: review of evidence and any matters still to be addressed
13	14:00	Flexible time to pursue any matters arising
14	14:30	Review panel final meeting: decisions on outcomes and drafting oral feedback
15	16:30	Oral feedback by review chairperson to review coordinator and faculty members
	17:00	Close

TEMPLATE FOR THE FOLLOW-UP PROCESS AND REPORT, AND OUTLINE OF TYPICAL SITE VISIT SCHEDULE FOR FOLLOW-UP

TEMPLATE FOR FOLLOW-UP REPORT

Quality Assurance and Academic Accreditation Directorate / International Accreditation Department.

Institution:

Faculty:

Programme:

Follow-up Report

1. This report presents the findings of the follow-up visit, which took place on / /20__. This is part of the Universities Quality Assurance and University Performance departments arrangements to provide continuing support for the development of internal quality assurance processes and continuing improvement

2. The purposes of the follow-up review are to assess the progress made in the programme since the Programme Review report, and to provide further information and support for the continuing improvement of academic standards and quality of higher education in Iraq.

3. The evidence base used in this follow-up review and report includes:
   a) Self-Evaluation Report for the programme together with supporting information
   b) Improvement plan prepared and implemented since the Programme Review report
   c) Programme Review Report
   d) Higher Education Quality Review Report and institutional strategic plan (if any)
   e) Additional evidence presented during the follow-up visit.

4. The overall conclusions reached as the outcome of the follow-up review are as follows:
   a) The programme (give title) at (give name of institution) has/has not successfully implemented an improvement plan.
   b) Good practice in the indicators demonstrated since the Programme Review site visit includes: (insert)
   c) Matters of particular importance that should be addressed by the institution in its continuing improvement of the programme are: (insert and indicate if they are, or as yet are not, addressed by the improvement plan).

5. The detailed report is provided in Annexure A below.

Annexure A

Name of Institution_____

Date of initial Programme Review site visit_____

Date visited in follow-up   _____

Date of follow-up report   _____

Names of follow-up reviewers   Position/title   Signed

	Part 1: The Internal Quality Assurance System in operation			
	Questions	**Yes?** (√)	**Comment**	**Further action required?**
1	Is the programme Self- Evaluation Report complete?			
2	Do the most recent self-evaluation reports indicate the extent to which the criteria in the Framework for Evaluation are met and/or are being addressed?			
3	Is there an improvement plan in place, informed by external and internal review?			
4	Are there any major gaps that appear not to be addressed?			
5	Is progress with the improvement plan monitored?			
6	Are there any major obstacles to the expected achievementof the improvement plan?			
7	What is the institution's estimate of the time needed to complete improvements to the programme?			
8	What is the reviewers' assessment of the time needed to complete improvements to the programme that would demonstrate the indicators?			

Part 2: Progress demonstrated with the indicators			
Indicators (refer to Framework of Evaluation)	Improvement plan points (comment on match with the Programme Review report's recommendations)	New information from follow-up site visit	Overall Conclusion
Curriculum Aims and ILOs Syllabus (content) Progression year on year Teaching and Learning Student assessment			
Efficiency Profile of admitted students Human resources Physical resources Uses made of available resources Student support Ratios of graduation to admitted students			
Academic Standards Clearly articulated standards Use of appropriate benchmarks Achievement of graduates Standards of students' assessed work			
Programme management and Assurance Arrangements for programme management Policies and procedures applied Structured comments collected and used Staff development needs identified and addressed Improvement planning processes working			

CRITERIA FOR A SUCCESSFUL REVIEW AND EVALUATION OF THE PROCESS

CRITERIA FOR A SUCCESSFUL REVIEW

1. The criteria for a successful review that informs the arrangements for Programme Review and its evaluation are as follows:

   i. The programme being reviewed is supported by existing or developing internal systems including specifications and review with a culture of self-evaluation and continuing improvement. These features of internal review provide a sound basis for the external review.

   ii. The timing of the external review is appropriate.

   iii. The profile of the visiting peer review panel matches in broad terms the profile of the academic activities in the institution.

   iv. There is due attention to detail in planning and preparation, by -

      a. The Quality Assurance and Academic Accreditation Directorate applies consistently its procedures for working with the institution and the reviewers and provides appropriate support for the external review as required

      b. The review coordinator: ensures that the evidence base generated by internal review and reporting systems is available on time to the visiting peer reviewers, and any requirements for clarification and supplementary information are satisfied

      c. The institution: provides a self-evaluation report for the programme to be externally reviewed

      d. The peer reviewers: undertake their preparation for the visit including reading the advance documentation and preparing initial commentaries that inform the conduct of the visit

   v. There is consistency in the application of the published review method and the protocols by all participants in a way that respects and supports the mission and philosophy of the overall process for continuing review and continuing improvement.

   vi. Reviewers and representatives of the institution conduct an open dialogue throughout the review that shows mutual respect.

   vii. The judgements reached by the reviewers are clear, based on the evidence available and systematically recorded.

   viii. The review report is produced on time in line with the standard report structure and is confirmed by the institution to be factually accurate.

   ix. The set of conclusions arising from the review are constructive, offering a fair and balanced view of the programme.

   x. The institution is able to benefit from the external review by giving due reflection and consideration to the findings and preparing where appropriate a realistic improvement plan

EVALUATION

2. The Quality Assurance and Academic Accreditation Directorate wishes to establish and implement procedures for the systematic evaluation of all external Programme Reviews arranged by it. The institution, the review chairperson and the peer reviewers will all routinely be asked to evaluate each external review by completing a short questionnaire. The structured comments will be analysed by the Quality Assurance and Academic Accreditation Directorate and where necessary the Quality Assurance and Academic Accreditation Directorate will take action to follow-up any difficulties highlighted. In addition, the Quality Assurance and Academic Accreditation Directorate will collate the structured comments to compile regular summary reports indicating the main features of the review process in practice, including the overall levels of satisfaction expressed by the participants, together with examples of good practice and opportunities for continuing improvement.

GLOSSARY OF TERMS IN PROGRAMME RE-

VIEW

DEFINITIONS OF TERMS USED IN THE PROGRAMME REVIEW HANDBOOK

Some of the terms used in the Handbook and/or used in internal and external review and reporting may have different meanings according to the context in which they are used. To remove possible ambiguities, the following working definitions of the terms are offered.

ADEMIC FIELDS/SUBJECT AREAS/DISCIPLINES

Academic fields categorise recognisable and coherent domains or the scope of study such as Mathematics, Medicine, Engineering and Philosophy. Fields that have a wide scope are often subdivided; for example, Humanities include subjects like History and Literature and Arts may include separate disciplines of Fine Arts and Photography. The curriculum of some programmes may combine academic fields, or may include different subjects and disciplines such as Mathematics in Engineering or Accountancy in Business Administration.

ACADEMIC STANDARDS

Specific standards decided by the institution, and informed by external reference points. They include the minimum or threshold level of knowledge and skills to be gained by the graduates from the programme, and can be used in evaluation and review.

ACCREDITATION

The recognition accorded by an agency or other organisation to either an education programme or to an institution to confirm that it can demonstrate that the programme(s) meet acceptable standards and that the institution has effective systems to ensure the quality and continuing improvement of its academic activities, according to published criteria.

ACTION OR IMPROVEMENT PLANS

Realistic plans for improvement derived from the consideration of available evidence and evaluations; they may be implemented for more than one year, but should be prepared and reviewed annually at each level of courses, programmes and the institution.

ADMITTED STUDENTS

Students registered on a programme, including those accepted holding prior credits for admission after year 1.

BENCHMARK/REFERENCE POINTS

Benchmark statements represent general expectations about the standards of achievement and general attributes to be expected of a graduate in a given academic field or subject. Reference standards may be external or internal. External reference points allow comparison of the academic standards and quality of a programme with equivalent programmes in Iraq and internationally. Internal reference points may be used to compare one academic field with another, or to identify trends over a given time period.

COMMUNITY

A defined segment of wider society served by the institution, as determined in its mission and

bylaws. It may be defined geographically or in terms of the range of organizations, groups and individuals engaged in its activities.

COURSE AIMS

Overall course aims should be expressed as the outcomes to be achieved by students completing the course as significant and assessable qualities. They should contribute to the achievement of defined aims within one or more education programmes.

CURRICULUM OR (IN THE PLURAL) CURRICULA

The complete organised learning as designed and managed by an institution for an admitted student, determined by the intended learning outcomes (ILOs) and comprising the content, the arrangements for teaching and learning and assessments of students' achievements together with the access to the range of facilities available within the University and, by arrangement, outside it, including libraries, computers studies, social, sports, internships and field studies.

DIRECTED SELF-LEARNING/INDEPENDENT LEARNING

The active promotion of personal skills included in the curriculum that support the student and graduate to seek, assimilate and learn from a range of structured and unstructured experiences. Methods of promotion include e-learning, personal and autonomous learning and fieldwork, assignments, internships, and reflexive learning. Devices commonly used that support directed self-learning beyond formal teaching lectures include logbooks, self-assessment reports, interactive learning tools or the equivalent.

E-LEARNING

Electronic-based learning using information technology may be the primary or secondary element in material associated with a programme or a course. It may be stand-alone or integrated with other teaching and learning approaches. It may include self-determination of aims, ILOs and materials using self-selection and will usually include self-assessment. It generally increases the levels of autonomy in, and responsibility for, learning. Converting existing texts or lecture notes to a website or pre-recorded media alone is generally not considered to be e-learning.

EXTERNAL EVALUATOR/EVALUATION

An appointment to a specific programme, part of a programme or course(s) by the institution to establish an independent and external professional opinion on the academic standards set and achieved in the examinations for the award of the degree.

FRAMEWORK FOR EVALUATION

The framework for evaluation provides a standard structure for evaluation of programmes. It will form the basis for self-evaluation, the site visit by external peer reviewers and the Programme Review report. It is designed to operate in all academic fields and institutions, and to apply to internal and external reviews.

GENERAL PRECEPTS/BY-LAWS

Principles, by-laws and regulations, which the educational institution must have as part of the policies covering its operations.

HIGHER EDUCATION INSTITUTE (HEI)/INSTITUTION
A Faculty, College or University providing higher education programmes leading to a first university degree (B.Sc. or B.A.) or a higher degree.

INTENDED LEARNING OUTCOMES (ILOS)
The ILOs are the outcome-related definition of knowledge, understanding and skills which the institution intends for its programmes. They should be mission-related, capable of measurement (assessable) and reflect the use of external reference standards at appropriate level.

INTERNAL SYSTEM FOR QUALITY MANAGEMENT AND ASSURANCE
The system adopted by the institution to ensure that its education programmes and contributing elements meet specified needs and are continually reviewed and improved. An outcomes-related system of quality management involves precise specifications for quality from design to delivery; evaluation; the identification of good practice as well as of learning deficiencies and obstacles; performance follow-up; suggestions for development and enhancement; and the systematic review and development of processes for establishing effective policies, strategies and priorities to support continuing improvement.

JOB/LABOUR MARKET
The availability of professional, commercial, research-oriented or other fields of employment that a graduate is qualified to join upon graduation.

MISSION STATEMENT
A brief statement clearly identifying the educational institution's duty and its role in the development of the community; a mission statement may also offer brief supporting statements on the vision, values and strategic objectives of the institution.

PEER REVIEWER
A person who is professionally equal in calibre and with management and/or subject expertise to those delivering the provision, but not from the same institution and without any conflict of interest, who can contribute to the review of an education programme for internal and external quality assurance or for accreditation purposes.

PROGRAMME
For the purpose of Programme Review an education programme is defined as one which admits students who, on successful completion, receive an academic award.

PROGRAMME AIMS
The broad purposes for providing the programme which in turn guide the development and implementation of strategic objectives (to ensure that the aims are met) and ILOs (to ensure that the students work towards attaining the specified outcomes).

PROGRAMME REVIEW

Programme Review applies to all education programmes in all higher education institutions. Where the programme is studied in more than one institution, the whole programme is included in Programme Review. Programme Review in Iraq has three objectives:

1) To provide decision-makers (in the higher education institutions, Quality Assurance and Academic Accreditation Directorate , parents, students, and other stakeholders) with evidence-based judgements on the quality of learning programmes
2) To support the development of internal quality assurance processes with information on emerging good practice and challenges, evaluative comment and continuing improvement
3) To enhance the reputation of Iraq's higher education internationally.

QUALITY ASSURANCE

The institution has the means of assuring that for each education programme, academic standards are defined and achieved in line with equivalent national and international standards, that the quality of the curriculum and related infrastructure are appropriate and fulfil the expectations of the range of stakeholders, that its graduates represent the range of attributes specified and that the organisation is capable of sustained, continuing improvement.

REVIEW COORDINATOR

The nominee of an institution to coordinate a Programme Review to assist in the gathering and interpretation of information and to support the application of published methods of review.

REPORT

The regular reports prepared on the basis of Programme Reviews and evaluations of its education programme.

SELF-EVALUATION

n institution's process of evaluating a programme as part of Programme Review and within an internal system of quality management and assurance.

SITE VISIT

A scheduled visit by external peer reviewers as part of Programme Review. Normally the site visit will be for two or three days. A typical outline timetable is provided in Appendix(1).

SPECIFICATION

The detailed description of the aims, construction and intended outcomes of a programme, and any courses, specific facilities or resources that contribute to it. The specification provides information to design, manage, deliver and review the programme.

STAKEHOLDER

Those organisations, groups or individuals which have a legitimate interest in the educational activities of the institution both in respect of the quality and standards of the education and also in respect of the effectiveness of the systems and processes for assuring the quality. An effective strategic review process will include the key stakeholder groups. The precise range of stakeholder groups and their differentiated interests depend upon the mission of the institution, its range of educational activities and local circumstances. The range is usually defined by a scoping study. Examples of groups with a legitimate interest include current students, graduates, intending students and their parents or family, staff in the institution, the employing community, the relevant Government ministries, the sponsors and other funding organisations and, where appropriate, professional organisations or syndicates.

STRATEGIC OBJECTIVES/PLANS

A collection of institution-specific objectives that are derived from its mission and developed into a realistic plan based on evidence-based evaluations. Objectives concentrate on the means by which an institution seeks to deliver its mission. The plan sets out the matters to be addressed, timeframe, person responsible and estimate of costs, and is accompanied by an implementation plan with arrangements for monitoring the progress and evaluating impact.

STUDENTS'ASSESSMENT

A set of processes, including examinations and other activities conducted by the institution to measure the achievement of the intended learning outcomes of a programme and its courses. Assessments also provide the means by which students are ranked according to their achievement. Diagnostic assessment seeks to determine the existing range of knowledge and skills of a student with a view to constructing an appropriate curriculum. Formative assessment provides information on the student's performance and progress to support further learning, without necessarily counting a grade towards graduation. Summative assessment determines the final level of attainment of the student on the programme or at the end of a course that contributes credits to the programme.

STUDENTS' EVALUATIONS

The systematic gathering of students'opinions on the quality of their programme in a standardized structure together with the analysis and outcomes. Surveys using questionnaires are the most frequently used methods to collect opinions; other mechanisms include websites conferences, panels or focus groups, and representation on councils or other committees.

TEACHING AND LEARNING METHODS

The range of methods used by teachers to help students to achieve the ILOs for the course. Examples include: lectures, small group teaching such as tutorials, seminars and syndicate groups; a case study to teach students how to analyse information and reach a decision; assignments such as writing a review paper for the students to gain the skills of self-learning and presentation; field trips; practical sessions for the students to gain practical skills; and carrying out experiments to train the students to analyse the results, reach specific conclusions and prepare a report, presentation or poster.

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	
2. University Department/Centre	
3. Programme Title	
4. Title of Final Award	
5. Modes of Attendance offered	
6. Accreditation	
7. Other external influences	
8. Date of production/revision of this specification	
9. Aims of the Programme	

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Knowledge and Understanding
  A1.
  A2.
  A3.
  A4.
  A5.
  A6.

B. Subject-specific skills
  B1.
  B2.
  B3.

Teaching and Learning Methods
Assessment methods

C. Thinking Skills
  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

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 Technology
2. University Department/Centre	Department of production & Metallurgy/ of Technology University
3. Course title/code	Plasticity
4. Programme(s) to which it contributes	Production engineering
5. Modes of Attendance offered	Complete Hours
6. Semester/Year	1st & 2nd semester / year
7. Number of hours tuition (total)	2 hr
8. Date of production/revision of this specification	30/5/2014

9. Aims of the Course

Introduce the students to the plastic region and elastic region and their equations and different phenomena that rule them such as True stress & true strain, Instability in tension, constantly Volume equation, Stress & strain in three dimensions, Principle stress in three dimensions, Principle strain in three dimensions, Mohr's circle in three dimension, Stress & strain in plasticity, Levy equation, Yield criteria of metals, Tresca criteria, Tresca criteria Von mises criterion, Effective stress , Effective strain, Effective strain rate, Effective strain rate, Effect of strain rate on the stress & strain curve, Effect of temperature on the stress & strain curve, Anisotropic, Visioplaticity theorem, Homogenous & no homogenous strain, Factor of redundancy strain, Factor of redundancy strain, Plastic work done, Redundant work, Upper bound theorem, Slip – line Field theorem

10· Learning Outcomes, Teaching ,Learning and Assessment Method

A- Knowledge and Understanding
A1.enable the students to deal with different types of stresses and strains and their effect on body
A2. Wide data base of information as engineer in plasticity field

B. Subject-specific skills
B1. Lectures
B2. Theoretical concept
B3. Experiments

Teaching and Learning Methods

Lectures, explanation and data show presentations

Assessment methods

1- Examinations
2- Quizzes.
3- Exercises and discussion.
4- Home work.

C. Thinking Skills
Understanding the topic subject and discussion

Teaching and Learning Methods

Lectures, explanation and data show presentations

Assessment methods

1- Examinations
2- Quizzes.
3- Exercises and discussion.
4- Home work.

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

Clear picture and idea about plasticity and elasticity regions and their equations

11. Course Structure

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	٢	a, c, e, d, h, k	**Theory of plasticity**	Lectures	Examination, Quizzes and discussion
2	٢	a, c, e, d, h, k	**True stress & true strain**	Lectures	Examination, Quizzes and discussion
3	٢	a, c, e, d, h, k	**Instability in tension**	Lectures	Examination, Quizzes and discussion
4	٢	a, c, e, d, h, k	**constantly Volume equation**	Lectures	Examination, Quizzes and discussion
5	٢	a, c, e, d, h, k	**Stress & strain in three dimensions**	Lectures	Examination, Quizzes and discussion
6	٢	a, c, e, d, h, k	**Principle stress in three dimensions**	Lectures	Examination, Quizzes and discussion
7	٢	a, c, e, d, h, k	**Principle strain in three dimensions**	Lectures	Examination, Quizzes and discussion
8	٢	a, c, e, d, h, k	**Mohr's circle in three dimension**	Lectures	Examination, Quizzes and discussion
9	٢	a, c, e, d, h, k	**Stress & strain in plasticity**	Lectures	Examination, Quizzes and discussion
10	٢	a, c, e, d, h, k	**Levy equation**	Lectures	Examination, Quizzes and discussion
11	٢	a, c, e, d, h, k	**Yield criteria of metals**	Lectures	Examination, Quizzes and discussion
12	٢	a, c, e, d, h, k	**Tresca criteria**	Lectures	Examination, Quizzes and discussion
13	٢	a, c, e, d, h, k	**Tresca criteria**	Lectures	Examination, Quizzes and discussion
14	٢	a, c, e, d, h, k	**Von mises criterion**	Lectures	Examination, Quizzes and discussion
15	٢	a, c, e, d, h, k	**Effective stress**	Lectures	Examination, Quizzes and discussion

16	٢	a, c, e, d, h, k	**Effective strain**	Lectures	Examination, Quizzes and discussion
17	٢	a, c, e, d, h, k	**Effective strain rate**	Lectures	Examination, Quizzes and discussion
18	٢	a, c, e, d, h, k	**Effective strain rate**	Lectures	Examination, Quizzes and discussion
19	٢	a, c, e, d, h, k	**Effect of strain rate on the stress & strain curve**	Lectures	Examination, Quizzes and discussion
20	٢	a, c, e, d, h, k	**Effect of temperature on the stress & strain curve**	Lectures	Examination, Quizzes and discussion
21	٢	a, c, e, d, h, k	**Anisotropic**	Lectures	Examination, Quizzes and discussion
22	٢	a, c, e, d, h, k	**Visioplaticity theorem**	Lectures	Examination, Quizzes and discussion
23	٢	a, c, e, d, h, k	**Homogenous & no homogenous strain**	Lectures	Examination, Quizzes and discussion
24	٢	a, c, e, d, h, k	**Factor of redundancy strain**	Lectures	Examination, Quizzes and discussion
25	٢	a, c, e, d, h, k	**Factor of redundancy strain**	Lectures	Examination, Quizzes and discussion
26	٢	a, c, e, d, h, k	**Plastic work done**	Lectures	Examination, Quizzes and discussion
٢٧	٢	a, c, e, d, h, k	**Redundant work**	Lectures	Examination, Quizzes and discussion
٢٨	٢	a, c, e, d, h, k	**Upper bound theorem**	Lectures	Examination, Quizzes and discussion
٢٩	٢	a, c, e, d, h, k	**Upper bound theorem**	Lectures	Examination, Quizzes and discussion
٣٠	٢	a, c, e, d, h, k	**Slip – line Field theorem**	Lectures	Examination, Quizzes and discussion

12. Infrastructure	
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	1. **Engineering Plasticity. By W.Johnson and P.B.Miller.** 2. **Principles of Industrial metal working processes .By Rowe.** 3. **Metal Forming: Process and analysis – theory and application .By Avitzur.**
Special requirements (include for example workshops, periodicals, IT software, websites)	plasticity Lab

Community-based facilities (include for example, guest Lectures , internship , field studies)	

13. Admissions	
Pre-requisites	Pass from last stage
Minimum number of students	No limit
Maximum number of students	No limit

TEMPLATE FOR TYPICAL SITE VISIT CHEDULE

1. The typical site visit schedule is designed for two or three days. It includes pre-arranged meetings. The responsibility for arranging these meetings and fitting the template to the circumstances rests with the Universities Quality Assurance and University Performance departments

2. Site visits will normally commence at 09:00 on day 1. Start times of pre-arranged meetings are indicated. Pre-arranged meetings should not normally last more than one hour. The schedule should not completely fill all times with meetings, but leave space for additional activities by peer reviewers including preparing for meetings, updating notes and records and drafting paragraphs for the draft Programme Review report

Table (1)

Session	Time	Activity
Day 1		
1	09:00	Welcome and introductions; brief introduction to the review (purposes, intended outcomes, use of evidence and self-evaluation report) – Programme Team
2	09:30	Curriculum; discussion with faculty members
3	11:00	Meeting with a group of students
4	12:30	Efficiency: tour of resources
5	14:00	Review panel meeting: scrutiny of additional documentation including sample of students' assessed work
6	15:00	Efficiency: meeting with faculty members
7	16:00	Review panel meeting: review of the evidence and any gaps or matters to follow-up
8	17:00	Meeting with external stakeholders (sample of graduates, employers, other partners)
Day 2		
9	08:45	Review meeting with review chairperson, review coordinator, programme leader: summary of day 1 findings, addressing any gaps, adjust the schedule for day 2 if required
10	09:00	Academic standards: meeting with faculty members
11	10:30	Effectiveness of quality management and assurance: meeting with faculty members
12	12:00	Review panel meeting: review of evidence and any matters still to be addressed
13	14:00	Flexible time to pursue any matters arising
14	14:30	Review panel final meeting: decisions on outcomes and drafting oral feedback
15	16:30	Oral feedback by review chairperson to review coordinator and faculty members

	17:00	Close

TEMPLATE FOR THE FOLLOW-UP PROCESS AND REPORT, AND OUTLINE OF TYPICAL SITE VISIT SCHEDULE FOR FOLLOW-UP

TEMPLATE FOR FOLLOW-UP REPORT

Quality Assurance and Academic Accreditation Directorate / International Accreditation Department.

Institution:

Faculty:

Programme:

Follow-up Report

1. This report presents the findings of the follow-up visit, which took place on / /20__. This is part of the Universities Quality Assurance and University Performance departments arrangements to provide continuing support for the development of internal quality assurance processes and continuing improvement

2. The purposes of the follow-up review are to assess the progress made in the programme since the Programme Review report, and to provide further information and support for the continuing improvement of academic standards and quality of higher education in Iraq.

3. The evidence base used in this follow-up review and report includes:
   a) Self-Evaluation Report for the programme together with supporting information
   b) Improvement plan prepared and implemented since the Programme Review report
   c) Programme Review Report
   d) Higher Education Quality Review Report and institutional strategic plan (if any)
   e) Additional evidence presented during the follow-up visit.

4. The overall conclusions reached as the outcome of the follow-up review are as follows:
   a) The programme (give title) at (give name of institution) has/has not successfully implemented an improvement plan.
   b) Good practice in the indicators demonstrated since the Programme Review site visit includes: (insert)
   c) Matters of particular importance that should be addressed by the institution in its continuing improvement of the programme are: (insert and indicate if they are, or as yet are not, addressed by the improvement plan).

5. The detailed report is provided in Annexure A below.

Annexure A

Name of Institution_____

Date of initial Programme Review site visit_____

Date visited in follow-up   _____

Date of follow-up report   _____

Names of follow-up reviewers   Position/title   Signed

	Part 1: The Internal Quality Assurance System in operation			
	Questions	**Yes?** **(√)**	**Comment**	**Further action required?**
1	Is the programme Self- Evaluation Report complete?			
2	Do the most recent self-evaluation reports indicate the extent to which the criteria in the Framework for Evaluation are met and/or are being addressed?			
3	Is there an improvement plan in place, informed by external and internal review?			
4	Are there any major gaps that appear not to be addressed?			
5	Is progress with the improvement plan monitored?			
6	Are there any major obstacles to the expected achievementof the improvement plan?			
7	What is the institution's estimate of the time needed to complete improvements to the programme?			
8	What is the reviewers' assessment of the time needed to complete improvements to the programme that would demonstrate the indicators?			

Part 2: Progress demonstrated with the indicators			
Indicators (refer to Framework of Evaluation)	Improvement plan points (comment on match with the Programme Review report's recommendations)	New information from follow-up site visit	Overall Conclusion
Curriculum Aims and ILOs Syllabus (content) Progression year on year Teaching and Learning Student assessment			
Efficiency Profile of admitted students Human resources Physical resources Uses made of available resources Student support Ratios of graduation to admitted students			
Academic Standards Clearly articulated standards Use of appropriate benchmarks Achievement of graduates Standards of students' assessed work			
Programme management and Assurance Arrangements for programme management Policies and procedures applied Structured comments collected and used Staff development needs identified and addressed Improvement planning processes working			

CRITERIA FOR A SUCCESSFUL REVIEW AND EVALUATION OF THE PROCESS

CRITERIA FOR A SUCCESSFUL REVIEW

1. The criteria for a successful review that informs the arrangements for Programme Review and its evaluation are as follows:

   i. The programme being reviewed is supported by existing or developing internal systems including specifications and review with a culture of self-evaluation and continuing improvement. These features of internal review provide a sound basis for the external review.

   ii. The timing of the external review is appropriate.

   iii. The profile of the visiting peer review panel matches in broad terms the profile of the academic activities in the institution.

   iv. There is due attention to detail in planning and preparation, by -

      a. The Quality Assurance and Academic Accreditation Directorate applies consistently its procedures for working with the institution and the reviewers and provides appropriate support for the external review as required

      b. The review coordinator: ensures that the evidence base generated by internal review and reporting systems is available on time to the visiting peer reviewers, and any requirements for clarification and supplementary information are satisfied

      c. The institution: provides a self-evaluation report for the programme to be externally reviewed

      d. The peer reviewers: undertake their preparation for the visit including reading the advance documentation and preparing initial commentaries that inform the conduct of the visit

   v. There is consistency in the application of the published review method and the protocols by all participants in a way that respects and supports the mission and philosophy of the overall process for continuing review and continuing improvement.

   vi. Reviewers and representatives of the institution conduct an open dialogue throughout the review that shows mutual respect.

   vii. The judgements reached by the reviewers are clear, based on the evidence available and systematically recorded.

   viii. The review report is produced on time in line with the standard report structure and is confirmed by the institution to be factually accurate.

   ix. The set of conclusions arising from the review are constructive, offering a fair and balanced view of the programme.

   x. The institution is able to benefit from the external review by giving due reflection and consideration to the findings and preparing where appropriate a realistic improvement plan

EVALUATION

2. The Quality Assurance and Academic Accreditation Directorate wishes to establish and implement procedures for the systematic evaluation of all external Programme Reviews arranged by it. The institution, the review chairperson and the peer reviewers will all routinely be asked to evaluate each external review by completing a short questionnaire. The structured comments will be analysed by the Quality Assurance and Academic Accreditation Directorate and where necessary the Quality Assurance and Academic Accreditation Directorate will take action to follow-up any difficulties highlighted. In addition, the Quality Assurance and Academic Accreditation Directorate will collate the structured comments to compile regular summary reports indicating the main features of the review process in practice, including the overall levels of satisfaction expressed by the participants, together with examples of good practice and opportunities for continuing improvement.

GLOSSARY OF TERMS IN PROGRAMME RE-VIEW

DEFINITIONS OF TERMS USED IN THE PROGRAMME REVIEW HANDBOOK

Some of the terms used in the Handbook and/or used in internal and external review and reporting may have different meanings according to the context in which they are used. To remove possible ambiguities, the following working definitions of the terms are offered.

ADEMIC FIELDS/SUBJECT AREAS/DISCIPLINES

Academic fields categorise recognisable and coherent domains or the scope of study such as Mathematics, Medicine, Engineering and Philosophy. Fields that have a wide scope are often subdivided; for example, Humanities include subjects like History and Literature and Arts may include separate disciplines of Fine Arts and Photography. The curriculum of some programmes may combine academic fields, or may include different subjects and disciplines such as Mathematics in Engineering or Accountancy in Business Administration.

ACADEMIC STANDARDS

Specific standards decided by the institution, and informed by external reference points. They include the minimum or threshold level of knowledge and skills to be gained by the graduates from the programme, and can be used in evaluation and review.

ACCREDITATION

The recognition accorded by an agency or other organisation to either an education programme or to an institution to confirm that it can demonstrate that the programme(s) meet acceptable standards and that the institution has effective systems to ensure the quality and continuing improvement of its academic activities, according to published criteria.

ACTION OR IMPROVEMENT PLANS

Realistic plans for improvement derived from the consideration of available evidence and evaluations; they may be implemented for more than one year, but should be prepared and reviewed annually at each level of courses, programmes and the institution.

ADMITTED STUDENTS

Students registered on a programme, including those accepted holding prior credits for

admission after year 1.

BENCHMARK/REFERENCE POINTS

Benchmark statements represent general expectations about the standards of achievement and general attributes to be expected of a graduate in a given academic field or subject. Reference standards may be external or internal. External reference points allow comparison of the academic standards and quality of a programme with equivalent programmes in Iraq and internationally. Internal reference points may be used to compare one academic field with another, or to identify trends over a given time period.

COMMUNITY

A defined segment of wider society served by the institution, as determined in its mission and bylaws. It may be defined geographically or in terms of the range of organizations, groups and individuals engaged in its activities.

COURSE AIMS

Overall course aims should be expressed as the outcomes to be achieved by students completing the course as significant and assessable qualities. They should contribute to the achievement of defined aims within one or more education programmes.

CURRICULUM OR (IN THE PLURAL) CURRICULA

The complete organised learning as designed and managed by an institution for an admitted student, determined by the intended learning outcomes (ILOs) and comprising the content, the arrangements for teaching and learning and assessments of students' achievements together with the access to the range of facilities available within the University and, by arrangement, outside it, including libraries, computers studies, social, sports, internships and field studies.

DIRECTED SELF-LEARNING/INDEPENDENT LEARNING

The active promotion of personal skills included in the curriculum that support the student and graduate to seek, assimilate and learn from a range of structured and unstructured experiences. Methods of promotion include e-learning, personal and autonomous learning and fieldwork, assignments, internships, and reflexive learning. Devices commonly used that support directed self-learning beyond formal teaching lectures include logbooks, self-assessment reports, interactive learning tools or the equivalent.

E-LEARNING

Electronic-based learning using information technology may be the primary or secondary element in material associated with a programme or a course. It may be stand-alone or integrated with other teaching and learning approaches. It may include self-determination of aims, ILOs and materials using self-selection and will usually include self-assessment. It generally increases the levels of autonomy in, and responsibility for, learning. Converting existing texts or lecture notes to a website or pre-recorded media alone is generally not considered to be e-learning.

EXTERNAL EVALUATOR/EVALUATION

An appointment to a specific programme, part of a programme or course(s) by the institution

to establish an independent and external professional opinion on the academic standards set and achieved in the examinations for the award of the degree.

FRAMEWORK FOR EVALUATION

The framework for evaluation provides a standard structure for evaluation of programmes. It will form the basis for self-evaluation, the site visit by external peer reviewers and the Programme Review report. It is designed to operate in all academic fields and institutions, and to apply to internal and external reviews.

GENERAL PRECEPTS/BY-LAWS

Principles, by-laws and regulations, which the educational institution must have as part of the policies covering its operations.

HIGHER EDUCATION INSTITUTE (HEI)/INSTITUTION

A Faculty, College or University providing higher education programmes leading to a first university degree (B.Sc. or B.A.) or a higher degree.

INTENDED LEARNING OUTCOMES (ILOS)

The ILOs are the outcome-related definition of knowledge, understanding and skills which the institution intends for its programmes. They should be mission-related, capable of measurement (assessable) and reflect the use of external reference standards at appropriate level.

INTERNAL SYSTEM FOR QUALITY MANAGEMENT AND ASSURANCE

The system adopted by the institution to ensure that its education programmes and contributing elements meet specified needs and are continually reviewed and improved. An outcomes-related system of quality management involves precise specifications for quality from design to delivery; evaluation; the identification of good practice as well as of learning deficiencies and obstacles; performance follow-up; suggestions for development and enhancement; and the systematic review and development of processes for establishing effective policies, strategies and priorities to support continuing improvement.

JOB/LABOUR MARKET

The availability of professional, commercial, research-oriented or other fields of employment that a graduate is qualified to join upon graduation.

MISSION STATEMENT

A brief statement clearly identifying the educational institution's duty and its role in the development of the community; a mission statement may also offer brief supporting statements on the vision, values and strategic objectives of the institution.

PEER REVIEWER

A person who is professionally equal in calibre and with management and/or subject expertise to those delivering the provision, but not from the same institution and without any conflict of

interest, who can contribute to the review of an education programme for internal and external quality assurance or for accreditation purposes.

PROGRAMME

For the purpose of Programme Review an education programme is defined as one which admits students who, on successful completion, receive an academic award.

PROGRAMME AIMS

The broad purposes for providing the programme which in turn guide the development and implementation of strategic objectives (to ensure that the aims are met) and ILOs (to ensure that the students work towards attaining the specified outcomes).

PROGRAMME REVIEW

Programme Review applies to all education programmes in all higher education institutions. Where the programme is studied in more than one institution, the whole programme is included in Programme Review. Programme Review in Iraq has three objectives:

1) To provide decision-makers (in the higher education institutions, Quality Assurance and Academic Accreditation Directorate , parents, students, and other stakeholders) with evidence-based judgements on the quality of learning programmes
2) To support the development of internal quality assurance processes with information on emerging good practice and challenges, evaluative comment and continuing improvement
3) To enhance the reputation of Iraq's higher education internationally.

QUALITY ASSURANCE

The institution has the means of assuring that for each education programme, academic standards are defined and achieved in line with equivalent national and international standards, that the quality of the curriculum and related infrastructure are appropriate and fulfil the expectations of the range of stakeholders, that its graduates represent the range of attributes specified and that the organisation is capable of sustained, continuing improvement.

REVIEW COORDINATOR

The nominee of an institution to coordinate a Programme Review to assist in the gathering and interpretation of information and to support the application of published methods of review.

REPORT

The regular reports prepared on the basis of Programme Reviews and evaluations of its education programme.

SELF-EVALUATION

n institution's process of evaluating a programme as part of Programme Review and within an internal system of quality management and assurance.

SITE VISIT

A scheduled visit by external peer reviewers as part of Programme Review. Normally the site visit will be for two or three days. A typical outline timetable is provided in Appendix(1).

SPECIFICATION

The detailed description of the aims, construction and intended outcomes of a programme, and any courses, specific facilities or resources that contribute to it. The specification provides information to design, manage, deliver and review the programme.

STAKEHOLDER

Those organisations, groups or individuals which have a legitimate interest in the educational activities of the institution both in respect of the quality and standards of the education and also in respect of the effectiveness of the systems and processes for assuring the quality. An effective strategic review process will include the key stakeholder groups. The precise range of stakeholder groups and their differentiated interests depend upon the mission of the institution, its range of educational activities and local circumstances. The range is usually defined by a scoping study. Examples of groups with a legitimate interest include current students, graduates, intending students and their parents or family, staff in the institution, the employing community, the relevant Government ministries, the sponsors and other funding organisations and, where appropriate, professional organisations or syndicates.

STRATEGIC OBJECTIVES/PLANS

A collection of institution-specific objectives that are derived from its mission and developed into a realistic plan based on evidence-based evaluations. Objectives concentrate on the means by which an institution seeks to deliver its mission. The plan sets out the matters to be addressed, timeframe, person responsible and estimate of costs, and is accompanied by an implementation plan with arrangements for monitoring the progress and evaluating impact.

STUDENTS'ASSESSMENT

A set of processes, including examinations and other activities conducted by the institution to measure the achievement of the intended learning outcomes of a programme and its courses. Assessments also provide the means by which students are ranked according to their achievement. Diagnostic assessment seeks to determine the existing range of knowledge and skills of a student with a view to constructing an appropriate curriculum. Formative assessment provides information on the student's performance and progress to support further learning, without necessarily counting a grade towards graduation. Summative assessment determines the final level of attainment of the student on the programme or at the end of a course that contributes credits to the programme.

STUDENTS' EVALUATIONS

The systematic gathering of students'opinions on the quality of their programme in a standardized structure together with the analysis and outcomes. Surveys using questionnaires are the most frequently used methods to collect opinions; other mechanisms include websites conferences, panels or focus groups, and representation on councils or other committees.

TEACHING AND LEARNING METHODS

The range of methods used by teachers to help students to achieve the ILOs for the course. Examples include: lectures, small group teaching such as tutorials, seminars and syndicate groups; a case study to teach students how to analyse information and reach a decision; assignments such as writing a review paper for the students to gain the skills of self-learning and presentation; field trips; practical sessions for the students to gain practical skills; and carrying out experiments to train the students to analyse the results, reach specific conclusions and prepare a report, presentation or poster.

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	
2. University Department/Centre	
3. Programme Title	
4. Title of Final Award	
5. Modes of Attendance offered	
6. Accreditation	
7. Other external influences	
8. Date of production/revision of this specification	
9. Aims of the Programme	

10. Learning Outcomes, Teaching, Learning and Assessment Methods		

A. Knowledge and Understanding
  A1.
  A2.
  A3.
  A4.
  A5.
  A6.		

B. Subject-specific skills
  B1.
  B2.
  B3.		

Teaching and Learning Methods		
Assessment methods		

C. Thinking Skills
  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.

1. Teaching Institution	University of Technology
2. University Department/Centre	Department of Production Engineering & Metallurgy
3. Course title/code	Dies design
4. Programme(s) to which it contributes	Production engineering
5. Modes of Attendance offered	Complete hours
6. Semester/Year	1st and 2nd Semester / year
7. Number of hours tuition (total)	2 hr theory + 2 hr practices
8. Date of production/revision of this specification	28/5/2014

9. Aims of the Course

The basic concepts of dies design, Locating & clamping methods, Principle of clamping, Method of using locating devices, Principle of fixing method, Die design, Shearing dies, Piercing die, Blanking die, Compound die design, Strip layout, Layout for cutting orientation die sets, Bending, forming & drawing dies, Bending dies, Forming dies, Drawing dies, Progressive die, Rolling & extrusion dies, Forging dies, Deep drawing dies, Plastic material used in dies production, Jig & fixtures, Design of drilling jigs, Types of drilling jigs, Theoretical consideration in drilling

jigs, Bush of guide, Design of fixtures, Types of fixtures, Vice fixtures, Milling fixtures, Boring fixtures, Broaching fixtures, Turning fixtures, Grinding fixtures and Selection of Dies Materials.

10· Learning Outcomes, Teaching ,Learning and Assessment Methode

A- Knowledge and Understanding
Enable the students to understand the theoretical and practical principles of die design and their limitations

B. Subject-specific skills
B1. Lectures
B2. Exercises
B3. Experiments

Teaching and Learning Methods

1- Lectures
2- Assignments and discussion
3- Software applications

Assessment methods

1- Quizzes
2- Reports
3- Home works
4- Examinations
5- Final examinations

C. Thinking Skills
C1. Encourage the student to work as groups
C2.discussion
C3. Solving problems

Teaching and Learning Methods
Lectures + tutorials

Assessment methods
1- Quizzes 2- Reports 3- Home works 4- Examinations Final examinations

D. General and Transferable Skills (other skills relevant to employability and personal development) Solve problems using different types of designs

11. Course Structure

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	٢	a, c, e, d, h, k	Introduction	Lecture	Examination, Quizzes and discussion
2	٢	a, c, e, d, h, k	General definition for drilling jigs	Lecture	Examination, Quizzes and discussion
3	٢	a, c, e, d, h, k	Types of drilling jigs	Lecture	Examination, Quizzes and discussion
4	٢	a, c, e, d, h, k	Theoretical consideration in drilling jigs	Lecture	Examination, Quizzes and discussion
5	٢	a, c, e, d, h, k	Bush of guide	Lecture	Examination, Quizzes and discussion
6	٢	a, c, e, d, h, k	Design of fixtures Introduction , Types of fixtures	Lecture	Examination, Quizzes and discussion
7	٢	a, c, e, d, h, k	Vice fixtures	Lecture	Examination, Quizzes and discussion
8	٢	a, c, e, d, h, k	Milling fixtures	Lecture	Examination, Quizzes and discussion
9	٢	a, c, e, d, h, k	Boring fixtures	Lecture	Examination, Quizzes and discussion
10	٢	a, c, e, d, h, k	Broaching fixtures	Lecture	Examination, Quizzes and discussion
11	٢	a, c, e, d, h, k	Turning fixtures	Lecture	Examination, Quizzes and discussion
12	٢	a, c, e, d, h, k	Grinding fixtures	Lecture	Examination, Quizzes and discussion
13	٢	a, c, e, d, h, k	Selection of Dies Materials	Lecture	Examination, Quizzes and discussion
14	٢	a, c, e, d, h, k	Heat treatment General introduction	Lecture	Examination, Quizzes and discussion
15	٢	a, c, e, d, h, k	Mechanical properties of material	Lecture	Examination, Quizzes and discussion
16	٢	a, c, e, d, h, k	Type of material used in die design	Lecture	Examination, Quizzes and discussion
17	٢	a, c, e, d, h, k	Introduction	Lecture	Examination, Quizzes and discussion
18	٢	a, c, e, d, h, k	General definition for drilling jigs	Lecture	Examination, Quizzes and discussion
19	٢	a, c, e, d, h, k	Types of drilling jigs	Lecture	Examination, Quizzes and discussion
20	٢	a, c, e, d, h, k	Theoretical consideration in drilling jigs	Lecture	Examination, Quizzes and discussion
21	٢	a, c, e, d, h, k	Bush of guide	Lecture	Examination, Quizzes

					and discussion
22	٢	a, c, e, d, h, k	Design of fixtures Introduction , Types of fixtures	Lecture	Examination, Quizzes and discussion
23	٢	a, c, e, d, h, k	Vice fixtures	Lecture	Examination, Quizzes and discussion
24	٢	a, c, e, d, h, k	Milling fixtures	Lecture	Examination, Quizzes and discussion
25	٢	a, c, e, d, h, k	Boring fixtures	Lecture	Examination, Quizzes and discussion
26	٢	a, c, e, d, h, k	Broaching fixtures	Lecture	Examination, Quizzes and discussion
27	٢	a, c, e, d, h, k	Turning fixtures	Lecture	Examination, Quizzes and discussion
28	٢	a, c, e, d, h, k	Grinding fixtures	Lecture	Examination, Quizzes and discussion
29	٢	a, c, e, d, h, k	Selection of Dies Materials	Lecture	Examination, Quizzes and discussion
30	٢	a, c, e, d, h, k	Heat treatment General introduction	Lecture	Examination, Quizzes and discussion

12. Infrastructure

Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	1. **Tool Design BY Gold.** 2. **Manufacturing Technology.** 3. **Die Design**
Special requirements (include for example workshops, periodicals, IT software, websites)	Web sites and related software
Community-based facilities (include for example, guest Lectures , internship , field studies)	

13. Admissions

Pre-requisites	Pass from last stage (year)
Minimum number of students	No limit
Maximum number of students	No limit

TEMPLATE FOR TYPICAL SITE VISIT CHEDULE

1. The typical site visit schedule is designed for two or three days. It includes pre-arranged meetings. The responsibility for arranging these meetings and fitting the template to the circumstances rests with the Universities Quality Assurance and University Performance departments

2. Site visits will normally commence at 09:00 on day 1. Start times of pre-arranged meetings are indicated. Pre-arranged meetings should not normally last more than one hour. The schedule should not completely fill all times with meetings, but leave space for additional activities by peer reviewers including preparing for meetings, updating notes and records and drafting paragraphs for the draft Programme Review report

Table (1)

Session	Time	Activity
Day 1		

1	09:00	Welcome and introductions; brief introduction to the review (purposes, intended outcomes, use of evidence and self-evaluation report) – Programme Team
2	09:30	Curriculum; discussion with faculty members
3	11:00	Meeting with a group of students
4	12:30	Efficiency: tour of resources
5	14:00	Review panel meeting: scrutiny of additional documentation including sample of students' assessed work
6	15:00	Efficiency: meeting with faculty members
7	16:00	Review panel meeting: review of the evidence and any gaps or matters to follow-up
8	17:00	Meeting with external stakeholders (sample of graduates, employers, other partners)
Day 2		
9	08:45	Review meeting with review chairperson, review coordinator, programme leader: summary of day 1 findings, addressing any gaps, adjust the schedule for day 2 if required
10	09:00	Academic standards: meeting with faculty members
11	10:30	Effectiveness of quality management and assurance: meeting with faculty members
12	12:00	Review panel meeting: review of evidence and any matters still to be addressed
13	14:00	Flexible time to pursue any matters arising
14	14:30	Review panel final meeting: decisions on outcomes and drafting oral feedback
15	16:30	Oral feedback by review chairperson to review coordinator and faculty members
	17:00	Close

TEMPLATE FOR THE FOLLOW-UP PROCESS AND REPORT, AND OUTLINE OF TYPICAL SITE VISIT SCHEDULE FOR FOLLOW-UP

TEMPLATE FOR FOLLOW-UP REPORT

Quality Assurance and Academic Accreditation Directorate / International Accreditation Department.

Institution:

Faculty:

Programme:

Follow-up Report

1. This report presents the findings of the follow-up visit, which took place on / /20__. This is part of the Universities Quality Assurance and University Performance departments arrangements to provide continuing support for the development of internal quality assurance processes and continuing improvement

2. The purposes of the follow-up review are to assess the progress made in the programme since the Programme Review report, and to provide further information and support for the continuing improvement of academic standards and quality of higher education in Iraq.

3. The evidence base used in this follow-up review and report includes:
   a) Self-Evaluation Report for the programme together with supporting information
   b) Improvement plan prepared and implemented since the Programme Review report
   c) Programme Review Report
   d) Higher Education Quality Review Report and institutional strategic plan (if any)
   e) Additional evidence presented during the follow-up visit.

4. The overall conclusions reached as the outcome of the follow-up review are as follows:
   a) The programme (give title) at (give name of institution) has/has not successfully implemented an improvement plan.
   b) Good practice in the indicators demonstrated since the Programme Review site visit includes: (insert)
   c) Matters of particular importance that should be addressed by the institution in its continuing improvement of the programme are: (insert and indicate if they are, or as yet are not, addressed by the improvement plan).

5. The detailed report is provided in Annexure A below.

Annexure A

Name of Institution_____

Date of initial Programme Review site visit_____

Date visited in follow-up   _____

Date of follow-up report   _____

Names of follow-up reviewers   Position/title   Signed

Part 1: The Internal Quality Assurance System in operation				
	Questions	**Yes?** (√)	**Comment**	**Further action required?**
1	Is the programme Self- Evaluation Report complete?			
2	Do the most recent self-evaluation reports indicate the extent to which the criteria in the Framework for Evaluation are met and/or are being addressed?			
3	Is there an improvement plan in place, informed by external and internal review?			
4	Are there any major gaps that appear not to be addressed?			
5	Is progress with the improvement plan monitored?			
6	Are there any major obstacles to the expected achievementof the improvement plan?			
7	What is the institution's estimate of the time needed to complete improvements to the programme?			
8	What is the reviewers' assessment of the time needed to complete improvements to the programme that would demonstrate the indicators?			

Part 2: Progress demonstrated with the indicators			
Indicators (refer to Framework of Evaluation)	Improvement plan points (comment on match with the Programme Review report's recommendations)	New information from follow-up site visit	Overall Conclusion

Curriculum Aims and ILOs Syllabus (content) Progression year on year Teaching and Learning Student assessment			
Efficiency Profile of admitted students Human resources Physical resources Uses made of available resources Student support Ratios of graduation to admitted students			
Academic Standards Clearly articulated standards Use of appropriate benchmarks Achievement of graduates Standards of students' assessed work			
Programme management and Assurance Arrangements for programme management Policies and procedures applied Structured comments collected and used Staff development needs identified and addressed Improvement planning processes working			

CRITERIA FOR A SUCCESSFUL REVIEW AND EVALUATION OF THE PROCESS

CRITERIA FOR A SUCCESSFUL REVIEW

1. The criteria for a successful review that informs the arrangements for Programme Review and its evaluation are as follows:
    i. The programme being reviewed is supported by existing or developing internal systems including specifications and review with a culture of self-evaluation and continuing improvement. These features of internal review provide a sound basis for the external review.
    ii. The timing of the external review is appropriate.
    iii. The profile of the visiting peer review panel matches in broad terms the profile of

the academic activities in the institution.

iv. There is due attention to detail in planning and preparation, by -

    a. The Quality Assurance and Academic Accreditation Directorate applies consistently its procedures for working with the institution and the reviewers and provides appropriate support for the external review as required

    b. The review coordinator: ensures that the evidence base generated by internal review and reporting systems is available on time to the visiting peer reviewers, and any requirements for clarification and supplementary information are satisfied

    c. The institution: provides a self-evaluation report for the programme to be externally reviewed

    d. The peer reviewers: undertake their preparation for the visit including reading the advance documentation and preparing initial commentaries that inform the conduct of the visit

v. There is consistency in the application of the published review method and the protocols by all participants in a way that respects and supports the mission and philosophy of the overall process for continuing review and continuing improvement.

vi. Reviewers and representatives of the institution conduct an open dialogue throughout the review that shows mutual respect.

vii. The judgements reached by the reviewers are clear, based on the evidence available and systematically recorded.

viii. The review report is produced on time in line with the standard report structure and is confirmed by the institution to be factually accurate.

ix. The set of conclusions arising from the review are constructive, offering a fair and balanced view of the programme.

x. The institution is able to benefit from the external review by giving due reflection and consideration to the findings and preparing where appropriate a realistic improvement plan

EVALUATION

2. The Quality Assurance and Academic Accreditation Directorate wishes to establish and implement procedures for the systematic evaluation of all external Programme Reviews arranged by it. The institution, the review chairperson and the peer reviewers will all routinely be asked to evaluate each external review by completing a short questionnaire. The structured comments will be analysed by the Quality Assurance and Academic Accreditation Directorate and where necessary the Quality Assurance and Academic Accreditation Directorate will take action to follow-up any difficulties highlighted. In addition, the Quality Assurance and Academic Accreditation Directorate will collate the structured comments to compile regular summary reports indicating the main features of the review process in practice, including the overall levels of satisfaction expressed by the participants, together with examples of good practice and opportunities for continuing improvement.

GLOSSARY OF TERMS IN PROGRAMME REVIEW

DEFINITIONS OF TERMS USED IN THE PROGRAMME REVIEW HANDBOOK

Some of the terms used in the Handbook and/or used in internal and external review and reporting may have different meanings according to the context in which they are used. To remove possible ambiguities, the following working definitions of the terms are offered.

ADEMIC FIELDS/SUBJECT AREAS/DISCIPLINES

Academic fields categorise recognisable and coherent domains or the scope of study such as Mathematics, Medicine, Engineering and Philosophy. Fields that have a wide scope are often subdivided; for example, Humanities include subjects like History and Literature and Arts may include separate disciplines of Fine Arts and Photography. The curriculum of some programmes may combine academic fields, or may include different subjects and disciplines such as Mathematics in Engineering or Accountancy in Business Administration.

ACADEMIC STANDARDS
Specific standards decided by the institution, and informed by external reference points. They include the minimum or threshold level of knowledge and skills to be gained by the graduates from the programme, and can be used in evaluation and review.

ACCREDITATION
The recognition accorded by an agency or other organisation to either an education programme or to an institution to confirm that it can demonstrate that the programme(s) meet acceptable standards and that the institution has effective systems to ensure the quality and continuing improvement of its academic activities, according to published criteria.

ACTION OR IMPROVEMENT PLANS
Realistic plans for improvement derived from the consideration of available evidence and evaluations; they may be implemented for more than one year, but should be prepared and reviewed annually at each level of courses, programmes and the institution.

ADMITTED STUDENTS
Students registered on a programme, including those accepted holding prior credits for admission after year 1.

BENCHMARK/REFERENCE POINTS
Benchmark statements represent general expectations about the standards of achievement and general attributes to be expected of a graduate in a given academic field or subject. Reference standards may be external or internal. External reference points allow comparison of the academic standards and quality of a programme with equivalent programmes in Iraq and internationally. Internal reference points may be used to compare one academic field with another, or to identify trends over a given time period.

COMMUNITY
A defined segment of wider society served by the institution, as determined in its mission and bylaws. It may be defined geographically or in terms of the range of organizations, groups and individuals engaged in its activities.

COURSE AIMS
Overall course aims should be expressed as the outcomes to be achieved by students completing the course as significant and assessable qualities. They should contribute to the achievement of defined aims within one or more education programmes.

CURRICULUM OR (IN THE PLURAL) CURRICULA

The complete organised learning as designed and managed by an institution for an admitted student, determined by the intended learning outcomes (ILOs) and comprising the content, the arrangements for teaching and learning and assessments of students' achievements together with the access to the range of facilities available within the University and, by arrangement, outside it, including libraries, computers studies, social, sports, internships and field studies.

DIRECTED SELF-LEARNING/INDEPENDENT LEARNING

The active promotion of personal skills included in the curriculum that support the student and graduate to seek, assimilate and learn from a range of structured and unstructured experiences. Methods of promotion include e-learning, personal and autonomous learning and fieldwork, assignments, internships, and reflexive learning. Devices commonly used that support directed self-learning beyond formal teaching lectures include logbooks, self-assessment reports, interactive learning tools or the equivalent.

E-LEARNING

Electronic-based learning using information technology may be the primary or secondary element in material associated with a programme or a course. It may be stand-alone or integrated with other teaching and learning approaches. It may include self-determination of aims, ILOs and materials using self-selection and will usually include self-assessment. It generally increases the levels of autonomy in, and responsibility for, learning. Converting existing texts or lecture notes to a website or pre-recorded media alone is generally not considered to be e-learning.

EXTERNAL EVALUATOR/EVALUATION

An appointment to a specific programme, part of a programme or course(s) by the institution to establish an independent and external professional opinion on the academic standards set and achieved in the examinations for the award of the degree.

FRAMEWORK FOR EVALUATION

The framework for evaluation provides a standard structure for evaluation of programmes. It will form the basis for self-evaluation, the site visit by external peer reviewers and the Programme Review report. It is designed to operate in all academic fields and institutions, and to apply to internal and external reviews.

GENERAL PRECEPTS/BY-LAWS

Principles, by-laws and regulations, which the educational institution must have as part of the policies covering its operations.

HIGHER EDUCATION INSTITUTE (HEI)/INSTITUTION

A Faculty, College or University providing higher education programmes leading to a first university degree (B.Sc. or B.A.) or a higher degree.

INTENDED LEARNING OUTCOMES (ILOS)

The ILOs are the outcome-related definition of knowledge, understanding and skills which the institution intends for its programmes. They should be mission-related, capable of measurement (assessable) and reflect the use of external reference standards at appropriate level.

INTERNAL SYSTEM FOR QUALITY MANAGEMENT AND ASSURANCE
The system adopted by the institution to ensure that its education programmes and contributing elements meet specified needs and are continually reviewed and improved. An outcomes-related system of quality management involves precise specifications for quality from design to delivery; evaluation; the identification of good practice as well as of learning deficiencies and obstacles; performance follow-up; suggestions for development and enhancement; and the systematic review and development of processes for establishing effective policies, strategies and priorities to support continuing improvement.

JOB/LABOUR MARKET
The availability of professional, commercial, research-oriented or other fields of employment that a graduate is qualified to join upon graduation.

MISSION STATEMENT
A brief statement clearly identifying the educational institution's duty and its role in the development of the community; a mission statement may also offer brief supporting statements on the vision, values and strategic objectives of the institution.

PEER REVIEWER
A person who is professionally equal in calibre and with management and/or subject expertise to those delivering the provision, but not from the same institution and without any conflict of interest, who can contribute to the review of an education programme for internal and external quality assurance or for accreditation purposes.

PROGRAMME
For the purpose of Programme Review an education programme is defined as one which admits students who, on successful completion, receive an academic award.

PROGRAMME AIMS
The broad purposes for providing the programme which in turn guide the development and implementation of strategic objectives (to ensure that the aims are met) and ILOs (to ensure that the students work towards attaining the specified outcomes).

PROGRAMME REVIEW
Programme Review applies to all education programmes in all higher education institutions. Where the programme is studied in more than one institution, the whole programme is included in Programme Review. Programme Review in Iraq has three objectives:
   1) To provide decision-makers (in the higher education institutions, Quality Assurance and

Academic Accreditation Directorate , parents, students, and other stakeholders) with evidence-based judgements on the quality of learning programmes

2) To support the development of internal quality assurance processes with information on emerging good practice and challenges, evaluative comment and continuing improvement

3) To enhance the reputation of Iraq's higher education internationally.

QUALITY ASSURANCE

The institution has the means of assuring that for each education programme, academic standards are defined and achieved in line with equivalent national and international standards, that the quality of the curriculum and related infrastructure are appropriate and fulfil the expectations of the range of stakeholders, that its graduates represent the range of attributes specified and that the organisation is capable of sustained, continuing improvement.

REVIEW COORDINATOR

The nominee of an institution to coordinate a Programme Review to assist in the gathering and interpretation of information and to support the application of published methods of review.

REPORT

The regular reports prepared on the basis of Programme Reviews and evaluations of its education programme.

SELF-EVALUATION

n institution's process of evaluating a programme as part of Programme Review and within an internal system of quality management and assurance.

SITE VISIT

A scheduled visit by external peer reviewers as part of Programme Review. Normally the site visit will be for two or three days. A typical outline timetable is provided in Appendix(1).

SPECIFICATION

The detailed description of the aims, construction and intended outcomes of a programme, and any courses, specific facilities or resources that contribute to it. The specification provides information to design, manage, deliver and review the programme.

STAKEHOLDER

Those organisations, groups or individuals which have a legitimate interest in the educational activities of the institution both in respect of the quality and standards of the education and also in respect of the effectiveness of the systems and processes for assuring the quality. An effective strategic review process will include the key stakeholder groups. The precise range of stakeholder groups and their differentiated interests depend upon the mission of the institution, its range of educational activities and local circumstances. The range is usually defined by a scoping study. Examples of groups with a legitimate interest include current

students, graduates, intending students and their parents or family, staff in the institution, the employing community, the relevant Government ministries, the sponsors and other funding organisations and, where appropriate, professional organisations or syndicates.

STRATEGIC OBJECTIVES/PLANS

A collection of institution-specific objectives that are derived from its mission and developed into a realistic plan based on evidence-based evaluations. Objectives concentrate on the means by which an institution seeks to deliver its mission. The plan sets out the matters to be addressed, timeframe, person responsible and estimate of costs, and is accompanied by an implementation plan with arrangements for monitoring the progress and evaluating impact.

STUDENTS'ASSESSMENT

A set of processes, including examinations and other activities conducted by the institution to measure the achievement of the intended learning outcomes of a programme and its courses. Assessments also provide the means by which students are ranked according to their achievement. Diagnostic assessment seeks to determine the existing range of knowledge and skills of a student with a view to constructing an appropriate curriculum. Formative assessment provides information on the student's performance and progress to support further learning, without necessarily counting a grade towards graduation. Summative assessment determines the final level of attainment of the student on the programme or at the end of a course that contributes credits to the programme.

STUDENTS' EVALUATIONS

The systematic gathering of students'opinions on the quality of their programme in a standardized structure together with the analysis and outcomes. Surveys using questionnaires are the most frequently used methods to collect opinions; other mechanisms include websites conferences, panels or focus groups, and representation on councils or other committees.

TEACHING AND LEARNING METHODS

The range of methods used by teachers to help students to achieve the ILOs for the course.
Examples include: lectures, small group teaching such as tutorials, seminars and syndicate groups; a case study to teach students how to analyse information and reach a decision; assignments such as writing a review paper for the students to gain the skills of self-learning and presentation; field trips; practical sessions for the students to gain practical skills; and carrying out experiments to train the students to analyse the results, reach specific conclusions and prepare a report, presentation or poster.

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	
2. University Department/Centre	
3. Programme Title	
4. Title of Final Award	
5. Modes of Attendance offered	
6. Accreditation	
7. Other external influences	
8. Date of production/revision of this specification	
9. Aims of the Programme	

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Knowledge and Understanding
  A1.
  A2.
  A3.
  A4.
  A5.
  A6.

B. Subject-specific skills
  B1.
  B2.
  B3.

Teaching and Learning Methods
Assessment methods

C. Thinking Skills
  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

				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

Curriculum Skills Map

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

TEMPLATE FOR COURSE SPECIFICATION

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 Technology
2. University Department/Centre	Department of production & Metallurgy/ of Technology University
3. Course title/code	Metal forming
4. Programme(s) to which it contributes	Production engineering
5. Modes of Attendance offered	Complete Hours
6. Semester/Year	1st & 2nd semester / year
7. Number of hours tuition (total)	2 hr
8. Date of production/revision of this specification	30/5/2014

9. Aims of the Course

Introduce the students to the plastic forming region equations and different types of metal forming processes such as Rod and Wire drawing, Wire drawing with homogeneous deformation of row, Strip drawing / row, Mechanical behavior &metal forming, Cold working, hot working, warm working, Strain Hardeman's, work Hardeman's, Friction and lubrication in metal working, Increasing in force attributable to friction, Protection from friction and wear, Tube drawing with mandrel and without mandrel, Tube drawing with fixings plug and with floating plug, Close, pass-drawing with a conical die, Max reduction in case plug drawing, Rolling, cold rolling, Roll torque, hot rolling, Type of rolling unit, Types of rolling, Extrusion, round bar extrusion through a conical die, Allowance for container friction, Defect of extruded product, Deep drawing, introduction Mechanical of deep drawing, Holding force, blank size diameter, Reverse drawing, Defects in deep drawing Sheet Metal Forming, Stretch forming, Shear Spinning, Tube Spinning, Blanking and punching, Shearing Operation, Blanking (press working), Punching press working), Clearance, Cutting Force, Non-convention metal forming process, Explosive metal forming.

10· Learning Outcomes, Teaching ,Learning and Assessment Methode

A- Knowledge and Understanding
A1.enable the students to deal with different types of forming processes in practical life
A2. Wide data base of information as engineer in forming field

B. Subject-specific skills
B1. Lectures
B2. Theoretical concept
B3. Experiments

Teaching and Learning Methods

Lectures, explanation and data show presentations

Assessment methods

1- Examinations

2- Quizzes.
3- Exercises and discussion.
4- Home work.

C. Thinking Skills
   Understanding the topic subject and discussion

Teaching and Learning Methods

Lectures, explanation and data show presentations

Assessment methods

1- Examinations
2- Quizzes.
3- Exercises and discussion.
4- Home work.

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

  Clear picture and idea about metal forming processes

11. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	٢	a, c, e, d, h, k	Rod and Wire drawing	Lectures	Examination, Quizzes and discussion
2	٢	a, c, e, d, h, k	Wire drawing with homogeneous deformation of row	Lectures	Examination, Quizzes and discussion
3	٢	a, c, e, d, h, k	Strip drawing / row	Lectures	Examination, Quizzes and discussion
4	٢	a, c, e, d, h, k	Mechanical behavior &metal forming	Lectures	Examination, Quizzes and discussion
5	٢	a, c, e, d, h, k	Cold working, hot working, warm working	Lectures	Examination, Quizzes and discussion
6	٢	a, c, e, d, h, k	Strain Hardeman's, work Hardeman's	Lectures	Examination, Quizzes and discussion
7	٢	a, c, e, d, h, k	Friction and lubrication in metal working	Lectures	Examination, Quizzes and discussion
8	٢	a, c, e, d, h, k	Increasing in force attributable to friction	Lectures	Examination, Quizzes and discussion
9	٢	a, c, e, d, h, k	Protection from friction and wear	Lectures	Examination, Quizzes and discussion
10	٢	a, c, e, d, h, k	Tube drawing with mandrel and without mandrel	Lectures	Examination, Quizzes and discussion
11	٢	a, c, e, d, h, k	Tube drawing with fixings plug and with floating plug	Lectures	Examination, Quizzes and discussion
12	٢	a, c, e, d, h, k	Close, pass-drawing with a conical die	Lectures	Examination, Quizzes and discussion
13	٢	a, c, e, d, h, k	Max reduction in case plug drawing	Lectures	Examination, Quizzes and discussion
14	٢	a, c, e, d, h, k	Rolling, cold rolling	Lectures	Examination, Quizzes and discussion
15	٢	a, c, e, d, h, k	Roll torque, hot rolling	Lectures	Examination, Quizzes and discussion

16	٢	a, c, e, d, h, k	Type of rolling unit	Lectures	Examination, Quizzes and discussion
17	٢	a, c, e, d, h, k	Types of rolling	Lectures	Examination, Quizzes and discussion
18	٢	a, c, e, d, h, k	Extrusion, round bar extrusion through a conical die	Lectures	Examination, Quizzes and discussion
19	٢	a, c, e, d, h, k	Allowance for container friction	Lectures	Examination, Quizzes and discussion
20	٢	a, c, e, d, h, k	Defect of extruded product	Lectures	Examination, Quizzes and discussion
21	٢	a, c, e, d, h, k	Deep drawing, introduction	Lectures	Examination, Quizzes and discussion
22	٢	a, c, e, d, h, k	Mechanical of deep drawing	Lectures	Examination, Quizzes and discussion
23	٢	a, c, e, d, h, k	Holding force, blank size diameter	Lectures	Examination, Quizzes and discussion
24	٢	a, c, e, d, h, k	Reverse drawing, Defects in deep drawing	Lectures	Examination, Quizzes and discussion
25	٢	a, c, e, d, h, k	Sheet Metal Forming, Stretch forming	Lectures	Examination, Quizzes and discussion
26	٢	a, c, e, d, h, k	Shear Spinning, Tube Spinning	Lectures	Examination, Quizzes and discussion
٢٧	٢	a, c, e, d, h, k	Blanking and punching, Shearing Operation	Lectures	Examination, Quizzes and discussion
٢٨	٢	a, c, e, d, h, k	Blanking (press working), Punching press working)	Lectures	Examination, Quizzes and discussion
٢٩	٢	a, c, e, d, h, k	Clearance, Cutting Force	Lectures	Examination, Quizzes and discussion
٣٠	٢	a, c, e, d, h, k	Non-convention metal forming process, Explosive metal forming	Lectures	Examination, Quizzes and discussion

12. Infrastructure	
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	1- Principles of industrial metal working process. Rowe 2- manufacturing processes . Groover
Special requirements (include for example workshops, periodicals, IT software, websites)	Forming lab

Community-based facilities (include for example, guest Lectures , internship , field studies)	

13. Admissions	
Pre-requisites	Pass from last stage
Minimum number of students	No limit
Maximum number of students	No limit

TEMPLATE FOR TYPICAL SITE VISIT CHEDULE

1. The typical site visit schedule is designed for two or three days. It includes pre-arranged meetings. The responsibility for arranging these meetings and fitting the template to the circumstances rests with the Universities Quality Assurance and University Performance departments

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Table (1)

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14	14:30	Review panel final meeting: decisions on outcomes and drafting oral feedback
15	16:30	Oral feedback by review chairperson to review coordinator and faculty members
	17:00	Close

TEMPLATE FOR THE FOLLOW-UP PROCESS AND REPORT, AND OUTLINE OF TYPICAL SITE VISIT SCHEDULE FOR FOLLOW-UP

TEMPLATE FOR FOLLOW-UP REPORT

Quality Assurance and Academic Accreditation Directorate / International Accreditation Department.

Institution:

Faculty:

Programme:

Follow-up Report

1. This report presents the findings of the follow-up visit, which took place on / /20__. This is part of the Universities Quality Assurance and University Performance departments arrangements to provide continuing support for the development of internal quality assurance processes and continuing improvement

2. The purposes of the follow-up review are to assess the progress made in the programme since the Programme Review report, and to provide further information and support for the continuing improvement of academic standards and quality of higher education in Iraq.

3. The evidence base used in this follow-up review and report includes:

   a) Self-Evaluation Report for the programme together with supporting information

   b) Improvement plan prepared and implemented since the Programme Review report

   c) Programme Review Report

   d) Higher Education Quality Review Report and institutional strategic plan (if any)

   e) Additional evidence presented during the follow-up visit.

4. The overall conclusions reached as the outcome of the follow-up review are as follows:

   a) The programme (give title) at (give name of institution) has/has not successfully implemented an improvement plan.

   b) Good practice in the indicators demonstrated since the Programme Review site visit includes: (insert)

   c) Matters of particular importance that should be addressed by the institution in its continuing improvement of the programme are: (insert and indicate if they are, or as yet are not, addressed by the improvement plan).

5. The detailed report is provided in Annexure A below.

Annexure A

Name of Institution_____

Date of initial Programme Review site visit_____

Date visited in follow-up   _____

Date of follow-up report   _____

Names of follow-up reviewers   Position/title   Signed

Part 1: The Internal Quality Assurance System in operation				
	Questions	**Yes?** (√)	**Comment**	**Further action required?**
1	Is the programme Self- Evaluation Report complete?			
2	Do the most recent self-evaluation reports indicate the extent to which the criteria in the Framework for Evaluation are met and/or are being addressed?			
3	Is there an improvement plan in place, informed by external and internal review?			
4	Are there any major gaps that appear not to be addressed?			
5	Is progress with the improvement plan monitored?			
6	Are there any major obstacles to the expected achievementof the improvement plan?			
7	What is the institution's estimate of the time needed to complete improvements to the programme?			
8	What is the reviewers' assessment of the time needed to complete improvements to the programme that would demonstrate the indicators?			

Part 2: Progress demonstrated with the indicators			
Indicators (refer to Framework of Evaluation)	Improvement plan points (comment on match with the Programme Review report's recommendations)	New information from follow-up site visit	Overall Conclusion
Curriculum Aims and ILOs Syllabus (content) Progression year on year Teaching and Learning Student assessment			
Efficiency Profile of admitted students Human resources Physical resources Uses made of available resources Student support Ratios of graduation to admitted students			
Academic Standards Clearly articulated standards Use of appropriate benchmarks Achievement of graduates Standards of students' assessed work			
Programme management and Assurance Arrangements for programme management Policies and procedures applied Structured comments collected and used Staff development needs identified and addressed Improvement planning processes working			

CRITERIA FOR A SUCCESSFUL REVIEW AND EVALUATION OF THE PROCESS

CRITERIA FOR A SUCCESSFUL REVIEW

1. The criteria for a successful review that informs the arrangements for Programme Review and its evaluation are as follows:

    i. The programme being reviewed is supported by existing or developing internal systems including specifications and review with a culture of self-evaluation and continuing improvement. These features of internal review provide a sound basis for the external review.

    ii. The timing of the external review is appropriate.

    iii. The profile of the visiting peer review panel matches in broad terms the profile of the academic activities in the institution.

    iv. There is due attention to detail in planning and preparation, by -

        a. The Quality Assurance and Academic Accreditation Directorate applies consistently its procedures for working with the institution and the reviewers and provides appropriate support for the external review as required

        b. The review coordinator: ensures that the evidence base generated by internal review and reporting systems is available on time to the visiting peer reviewers, and any requirements for clarification and supplementary information are satisfied

        c. The institution: provides a self-evaluation report for the programme to be externally reviewed

        d. The peer reviewers: undertake their preparation for the visit including reading the advance documentation and preparing initial commentaries that inform the conduct of the visit

    v. There is consistency in the application of the published review method and the protocols by all participants in a way that respects and supports the mission and philosophy of the overall process for continuing review and continuing improvement.

    vi. Reviewers and representatives of the institution conduct an open dialogue throughout the review that shows mutual respect.

    vii. The judgements reached by the reviewers are clear, based on the evidence available and systematically recorded.

    viii. The review report is produced on time in line with the standard report structure and is confirmed by the institution to be factually accurate.

    ix. The set of conclusions arising from the review are constructive, offering a fair and balanced view of the programme.

    x. The institution is able to benefit from the external review by giving due reflection and consideration to the findings and preparing where appropriate a realistic improvement plan

EVALUATION

2. The Quality Assurance and Academic Accreditation Directorate wishes to establish and implement procedures for the systematic evaluation of all external Programme Reviews arranged by it. The institution, the review chairperson and the peer reviewers will all routinely be asked to evaluate each external review by completing a short questionnaire. The structured comments will be analysed by the Quality Assurance and Academic Accreditation Directorate and where necessary the Quality Assurance and Academic Accreditation Directorate will take action to follow-up any difficulties highlighted. In addition, the Quality Assurance and Academic Accreditation Directorate will collate the structured comments to compile regular summary reports indicating the main features of the review process in practice, including the overall levels of satisfaction expressed by the participants, together with examples of good practice and opportunities for continuing improvement.

GLOSSARY OF TERMS IN PROGRAMME REVIEW

DEFINITIONS OF TERMS USED IN THE PROGRAMME REVIEW HANDBOOK

Some of the terms used in the Handbook and/or used in internal and external review and reporting may have different meanings according to the context in which they are used. To remove possible ambiguities, the following working definitions of the terms are offered.

ADEMIC FIELDS/SUBJECT AREAS/DISCIPLINES

Academic fields categorise recognisable and coherent domains or the scope of study such as Mathematics, Medicine, Engineering and Philosophy. Fields that have a wide scope are often subdivided; for example, Humanities include subjects like History and Literature and Arts may include separate disciplines of Fine Arts and Photography. The curriculum of some programmes may combine academic fields, or may include different subjects and disciplines such as Mathematics in Engineering or Accountancy in Business Administration.

ACADEMIC STANDARDS

Specific standards decided by the institution, and informed by external reference points. They include the minimum or threshold level of knowledge and skills to be gained by the graduates from the programme, and can be used in evaluation and review.

ACCREDITATION

The recognition accorded by an agency or other organisation to either an education programme or to an institution to confirm that it can demonstrate that the programme(s) meet acceptable standards and that the institution has effective systems to ensure the quality and continuing improvement of its academic activities, according to published criteria.

ACTION OR IMPROVEMENT PLANS

Realistic plans for improvement derived from the consideration of available evidence and evaluations; they may be implemented for more than one year, but should be prepared and reviewed annually at each level of courses, programmes and the institution.

ADMITTED STUDENTS

Students registered on a programme, including those accepted holding prior credits for admission after year 1.

BENCHMARK/REFERENCE POINTS

Benchmark statements represent general expectations about the standards of achievement and general attributes to be expected of a graduate in a given academic field or subject. Reference standards may be external or internal. External reference points allow comparison of the academic standards and quality of a programme with equivalent programmes in Iraq and internationally. Internal reference points may be used to compare one academic field with another, or to identify trends over a given time period.

COMMUNITY

A defined segment of wider society served by the institution, as determined in its mission and bylaws. It may be defined geographically or in terms of the range of organizations, groups and individuals engaged in its activities.

COURSE AIMS

Overall course aims should be expressed as the outcomes to be achieved by students completing the course as significant and assessable qualities. They should contribute to the achievement of defined aims within one or more education programmes.

CURRICULUM OR (IN THE PLURAL) CURRICULA

The complete organised learning as designed and managed by an institution for an admitted student, determined by the intended learning outcomes (ILOs) and comprising the content, the arrangements for teaching and learning and assessments of students' achievements together with the access to the range of facilities available within the University and, by arrangement, outside it, including libraries, computers studies, social, sports, internships and field studies.

DIRECTED SELF-LEARNING/INDEPENDENT LEARNING

The active promotion of personal skills included in the curriculum that support the student and graduate to seek, assimilate and learn from a range of structured and unstructured experiences. Methods of promotion include e-learning, personal and autonomous learning and fieldwork, assignments, internships, and reflexive learning. Devices commonly used that support directed self-learning beyond formal teaching lectures include logbooks, self-assessment reports, interactive learning tools or the equivalent.

E-LEARNING

Electronic-based learning using information technology may be the primary or secondary element in material associated with a programme or a course. It may be stand-alone or integrated with other teaching and learning approaches. It may include self-determination of aims, ILOs and materials using self-selection and will usually include self-assessment. It generally increases the levels of autonomy in, and responsibility for, learning. Converting existing texts or lecture notes to a website or pre-recorded media alone is generally not considered to be e-learning.

EXTERNAL EVALUATOR/EVALUATION

An appointment to a specific programme, part of a programme or course(s) by the institution to establish an independent and external professional opinion on the academic standards set and achieved in the examinations for the award of the degree.

FRAMEWORK FOR EVALUATION

The framework for evaluation provides a standard structure for evaluation of programmes. It will form the basis for self-evaluation, the site visit by external peer reviewers and the Programme Review report. It is designed to operate in all academic fields and institutions, and to apply to internal and external reviews.

GENERAL PRECEPTS/BY-LAWS
Principles, by-laws and regulations, which the educational institution must have as part of the policies covering its operations.

HIGHER EDUCATION INSTITUTE (HEI)/INSTITUTION
A Faculty, College or University providing higher education programmes leading to a first university degree (B.Sc. or B.A.) or a higher degree.

INTENDED LEARNING OUTCOMES (ILOS)
The ILOs are the outcome-related definition of knowledge, understanding and skills which the institution intends for its programmes. They should be mission-related, capable of measurement (assessable) and reflect the use of external reference standards at appropriate level.

INTERNAL SYSTEM FOR QUALITY MANAGEMENT AND ASSURANCE
The system adopted by the institution to ensure that its education programmes and contributing elements meet specified needs and are continually reviewed and improved. An outcomes-related system of quality management involves precise specifications for quality from design to delivery; evaluation; the identification of good practice as well as of learning deficiencies and obstacles; performance follow-up; suggestions for development and enhancement; and the systematic review and development of processes for establishing effective policies, strategies and priorities to support continuing improvement.

JOB/LABOUR MARKET
The availability of professional, commercial, research-oriented or other fields of employment that a graduate is qualified to join upon graduation.

MISSION STATEMENT
A brief statement clearly identifying the educational institution's duty and its role in the development of the community; a mission statement may also offer brief supporting statements on the vision, values and strategic objectives of the institution.

PEER REVIEWER
A person who is professionally equal in calibre and with management and/or subject expertise to those delivering the provision, but not from the same institution and without any conflict of interest, who can contribute to the review of an education programme for internal and external quality assurance or for accreditation purposes.

PROGRAMME
For the purpose of Programme Review an education programme is defined as one which admits students who, on successful completion, receive an academic award.

PROGRAMME AIMS

The broad purposes for providing the programme which in turn guide the development and implementation of strategic objectives (to ensure that the aims are met) and ILOs (to ensure that the students work towards attaining the specified outcomes).

PROGRAMME REVIEW

Programme Review applies to all education programmes in all higher education institutions. Where the programme is studied in more than one institution, the whole programme is included in Programme Review. Programme Review in Iraq has three objectives:

1) To provide decision-makers (in the higher education institutions, Quality Assurance and Academic Accreditation Directorate , parents, students, and other stakeholders) with evidence-based judgements on the quality of learning programmes
2) To support the development of internal quality assurance processes with information on emerging good practice and challenges, evaluative comment and continuing improvement
3) To enhance the reputation of Iraq's higher education internationally.

QUALITY ASSURANCE

The institution has the means of assuring that for each education programme, academic standards are defined and achieved in line with equivalent national and international standards, that the quality of the curriculum and related infrastructure are appropriate and fulfil the expectations of the range of stakeholders, that its graduates represent the range of attributes specified and that the organisation is capable of sustained, continuing improvement.

REVIEW COORDINATOR

The nominee of an institution to coordinate a Programme Review to assist in the gathering and interpretation of information and to support the application of published methods of review.

REPORT

The regular reports prepared on the basis of Programme Reviews and evaluations of its education programme.

SELF-EVALUATION

n institution's process of evaluating a programme as part of Programme Review and within an internal system of quality management and assurance.

SITE VISIT

A scheduled visit by external peer reviewers as part of Programme Review. Normally the site visit will be for two or three days. A typical outline timetable is provided in Appendix(1).

SPECIFICATION

The detailed description of the aims, construction and intended outcomes of a programme, and any courses, specific facilities or resources that contribute to it. The specification provides information to design, manage, deliver and review the programme.

STAKEHOLDER

Those organisations, groups or individuals which have a legitimate interest in the educational activities of the institution both in respect of the quality and standards of the education and also in respect of the effectiveness of the systems and processes for assuring the quality. An effective strategic review process will include the key stakeholder groups. The precise range of stakeholder groups and their differentiated interests depend upon the mission of the institution, its range of educational activities and local circumstances. The range is usually defined by a scoping study. Examples of groups with a legitimate interest include current students, graduates, intending students and their parents or family, staff in the institution, the employing community, the relevant Government ministries, the sponsors and other funding organisations and, where appropriate, professional organisations or syndicates.

STRATEGIC OBJECTIVES/PLANS

A collection of institution-specific objectives that are derived from its mission and developed into a realistic plan based on evidence-based evaluations. Objectives concentrate on the means by which an institution seeks to deliver its mission. The plan sets out the matters to be addressed, timeframe, person responsible and estimate of costs, and is accompanied by an implementation plan with arrangements for monitoring the progress and evaluating impact.

STUDENTS'ASSESSMENT

A set of processes, including examinations and other activities conducted by the institution to measure the achievement of the intended learning outcomes of a programme and its courses. Assessments also provide the means by which students are ranked according to their achievement. Diagnostic assessment seeks to determine the existing range of knowledge and skills of a student with a view to constructing an appropriate curriculum. Formative assessment provides information on the student's performance and progress to support further learning, without necessarily counting a grade towards graduation. Summative assessment determines the final level of attainment of the student on the programme or at the end of a course that contributes credits to the programme.

STUDENTS' EVALUATIONS

The systematic gathering of students'opinions on the quality of their programme in a standardized structure together with the analysis and outcomes. Surveys using questionnaires are the most frequently used methods to collect opinions; other mechanisms include websites conferences, panels or focus groups, and representation on councils or other committees.

TEACHING AND LEARNING METHODS

The range of methods used by teachers to help students to achieve the ILOs for the course. Examples include: lectures, small group teaching such as tutorials, seminars and syndicate groups; a case study to teach students how to analyse information and reach a decision; assignments such as writing a review paper for the students to gain the skills of self-learning and presentation; field trips; practical sessions for the students to gain practical skills; and carrying out experiments to train the students to analyse the results, reach specific conclusions and prepare a report, presentation or poster.

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	
2. University Department/Centre	
3. Programme Title	
4. Title of Final Award	
5. Modes of Attendance offered	
6. Accreditation	
7. Other external influences	
8. Date of production/revision of this specification	
9. Aims of the Programme	

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Knowledge and Understanding
  A1.
  A2.
  A3.
  A4.
  A5.
  A6.

B. Subject-specific skills
  B1.
  B2.
  B3.

  Teaching and Learning Methods

  Assessment methods

C. Thinking Skills
  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.

1. Teaching Institution	University of Technology
2. University Department/Centre	Department of Production Engineering & Metallurgy
3. Course title/code	Production engineering
4. Programme(s) to which it contributes	Production Engineering
5. Modes of Attendance offered	Complete hours
6. Semester/Year	1st & 2nd Semester / Year
7. Number of hours tuition (total)	2hr/w
8. Date of production/revision of this specification	18/5/2014

9. Aims of the Course

The aim of the course is to make overview of machining processes fundamentals including different operations which are necessary to produce parts, shapes and take knowledge about surface machining and categories of production, Mechanical machining machines, Ultrasonic machining, Electro discharge machining, Electro Chemical machining, Surface roughness, parameters influencing and measuring devices, New cutting tools, characteristics and application's, Calculation in tool wear, Fixtures and their advantages, Fixtures in turning and milling machines,

Fixtures in grinding and special fixtures, Selection of machines and equipment's, Working motions and auxiliary motions in cutting, Selection of suitable operation in mechanical machining, Technology route, Selection of raw materials in mechanical machining, Application about writing technology route, Technology route for manufacturing fixture, Technology route for manufacturing die, Calculation in cutting forces / turning, Calculation in cutting forces / milling, Press and Kinds, Industrial applications for presses, Forging operation, Kind of forging and application, Close and open forging, Fits & tolerance, Calculation and example, Errors in mechanical machining, Influence of errors on surfaces

10· Learning Outcomes, Teaching ,Learning and Assessment Methode

A- Knowledge and Understanding
  A1. Text books production engineering & science
  A2. Experimental work which related with subject
  A3.internet and web sites

B. Subject-specific skills
B1. Lectures
B2. Tutorial

Teaching and Learning Methods

1- Lectures , explanation and tutorials
2- Quizzes
3- Experiments, examples, problems

Assessment methods

1- Related home works reports
2- Additional problems

C. Thinking Skills
  C1.
  C2.
  C3.
  C4.

Teaching and Learning Methods

4- Lectures , explanation and tutorials
5- Quizzes
6- Experiments, examples, problems

Assessment methods

1- Related home works reports
2- Additional problems

D. General and Transferable Skills (other skills relevant to employability and personal development)
  Training in workshops on different machines and experiential work

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
11. Course Structure					
1	٢	a, b, d, e, k	Kind of production	Lectures	Examination, Quizzes and discussion
2	٢	a, b, d, e, k	Mechanical machining machines	Lectures	Examination, Quizzes and discussion
3	٢	a, b, d, e, k	Ultrasonic machining	Lectures	Examination, Quizzes and discussion
4	٢	a, b, d, e, k	Electro discharge machining	Lectures	Examination, Quizzes and discussion
5	٢	a, b, d, e, k	Electro Chemical machining	Lectures	Examination, Quizzes and discussion
6	٢	a, b, d, e, k	Surface roughness, parameters influencing and measuring devices	Lectures	Examination, Quizzes and discussion
7	٢	a, b, d, e, k	New cutting tools, characteristics and application's	Lectures	Examination, Quizzes and discussion
8	٢	a, b, d, e, k	Calculation in tool wear	Lectures	Examination, Quizzes and discussion
9	٢	a, b, d, e, k	Fixtures and their advantages	Lectures	Examination, Quizzes and discussion
10	٢	a, b, d, e, k	Fixtures in turning and milling machines	Lectures	Examination, Quizzes and discussion
11	٢	a, b, d, e, k	Fixtures in grinding and special fixtures	Lectures	Examination, Quizzes and discussion
12	٢	a, b, d, e, k	Selection of machines and equipment's	Lectures	Examination, Quizzes and discussion
13	٢	a, b, d, e, k	Working motions and auxiliary motions in cutting	Lectures	Examination, Quizzes and discussion
14	٢	a, b, d, e, k	Selection of suitable operation in mechanical machining	Lectures	Examination, Quizzes and discussion
15	٢	a, b, d, e, k	Technology route	Lectures	Examination, Quizzes and discussion
16	٢	a, b, d, e, k	Selection of raw materials in mechanical machining	Lectures	Examination, Quizzes and discussion
17	٢	a, b, d, e, k	Application about writing technology route	Lectures	Examination, Quizzes and discussion
18	٢	a, b, d, e, k	Technology route for	Lectures	Examination, Quizzes

			manufacturing fixture		and discussion
19	٢	a, b, d, e, k	Technology route for manufacturing die	Lectures	Examination, Quizzes and discussion
20	٢	a, b, d, e, k	Calculation in cutting forces / turning	Lectures	Examination, Quizzes and discussion
21	٢	a, b, d, e, k	Calculation in cutting forces / milling	Lectures	Examination, Quizzes and discussion
22	٢	a, b, d, e, k	Press and Kinds	Lectures	Examination, Quizzes and discussion
23	٢	a, b, d, e, k	Industrial applications for presses	Lectures	Examination, Quizzes and discussion
24	٢	a, b, d, e, k	Forging operation	Lectures	Examination, Quizzes and discussion
25	٢	a, b, d, e, k	Kind of forging and application	Lectures	Examination, Quizzes and discussion
26	٢	a, b, d, e, k	Close and open forging	Lectures	Examination, Quizzes and discussion
27	٢	a, b, d, e, k	Fits & tolerance	Lectures	Examination, Quizzes and discussion
28	٢	a, b, d, e, k	Calculation and example	Lectures	Examination, Quizzes and discussion
29	٢	a, b, d, e, k	Errors in mechanical machining	Lectures	Examination, Quizzes and discussion
30	٢	a, b, d, e, k	Influence of errors on surfaces	Lectures	Examination, Quizzes and discussion

12. Infrastructure

Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	1. **Metal Cutting and Machining (Hand book.A.A.Panova,Mosca.1988)** 2. **Manufacturing Processes and Materials for Engineers, Second edition /Lawrence E.Doyle.New jersey. 1969** 3. **Machine tools. R.N.DATTA ,London 2010** 4. **Production Engineering &Science Dr.P.CP andey** 5. **Fundamental of manufacturing Engineering D.K.singh,2007,2edition**
Special requirements (include for example workshops, periodicals, IT software, websites)	• many problems • examples about sheet process and technology routs

Community-based facilities (include for example, guest Lectures , internship , field studies)	Home works

13. Admissions	
Pre-requisites	
Minimum number of students	٢٠
Maximum number of students	٥٠

TEMPLATE FOR TYPICAL SITE VISIT CHEDULE

1. The typical site visit schedule is designed for two or three days. It includes pre-arranged meetings. The responsibility for arranging these meetings and fitting the template to the circumstances rests with the Universities Quality Assurance and University Performance departments

2. Site visits will normally commence at 09:00 on day 1. Start times of pre-arranged meetings are indicated. Pre-arranged meetings should not normally last more than one hour. The schedule should not completely fill all times with meetings, but leave space for additional activities by peer reviewers including preparing for meetings, updating notes and records and drafting paragraphs for the draft Programme Review report

Table (1)

Session	Time	Activity
Day 1		
1	09:00	Welcome and introductions; brief introduction to the review (purposes, intended outcomes, use of evidence and self-evaluation report) – Programme Team
2	09:30	Curriculum; discussion with faculty members
3	11:00	Meeting with a group of students
4	12:30	Efficiency: tour of resources
5	14:00	Review panel meeting: scrutiny of additional documentation including sample of students' assessed work
6	15:00	Efficiency: meeting with faculty members
7	16:00	Review panel meeting: review of the evidence and any gaps or matters to follow-up
8	17:00	Meeting with external stakeholders (sample of graduates, employers, other partners)
Day 2		
9	08:45	Review meeting with review chairperson, review coordinator, programme leader: summary of day 1 findings, addressing any gaps, adjust the schedule for day 2 if required
10	09:00	Academic standards: meeting with faculty members
11	10:30	Effectiveness of quality management and assurance: meeting with faculty members
12	12:00	Review panel meeting: review of evidence and any matters still to be addressed
13	14:00	Flexible time to pursue any matters arising
14	14:30	Review panel final meeting: decisions on outcomes and drafting oral feedback
15	16:30	Oral feedback by review chairperson to review coordinator and faculty members

	17:00	Close

TEMPLATE FOR THE FOLLOW-UP PROCESS AND REPORT, AND OUTLINE OF TYPICAL SITE VISIT SCHEDULE FOR FOLLOW-UP

TEMPLATE FOR FOLLOW-UP REPORT

Quality Assurance and Academic Accreditation Directorate / International Accreditation Department.

Institution:

Faculty:

Programme:

Follow-up Report

1. This report presents the findings of the follow-up visit, which took place on /   /20__. This is part of the Universities Quality Assurance and University Performance departments arrangements to provide continuing support for the development of internal quality assurance processes and continuing improvement

2. The purposes of the follow-up review are to assess the progress made in the programme since the Programme Review report, and to provide further information and support for the continuing improvement of academic standards and quality of higher education in Iraq.

3. The evidence base used in this follow-up review and report includes:
   a) Self-Evaluation Report for the programme together with supporting information
   b) Improvement plan prepared and implemented since the Programme Review report
   c) Programme Review Report
   d) Higher Education Quality Review Report and institutional strategic plan (if any)
   e) Additional evidence presented during the follow-up visit.

4. The overall conclusions reached as the outcome of the follow-up review are as follows:
   a) The programme (give title) at (give name of institution) has/has not successfully implemented an improvement plan.
   b) Good practice in the indicators demonstrated since the Programme Review site visit includes: (insert)
   c) Matters of particular importance that should be addressed by the institution in its continuing improvement of the programme are: (insert and indicate if they are, or as yet are not, addressed by the improvement plan).

5. The detailed report is provided in Annexure A below.

Annexure A

Name of Institution_____

Date of initial Programme Review site visit_____

Date visited in follow-up   _____

Date of follow-up report   _____

Names of follow-up reviewers   Position/title   Signed

Part 1: The Internal Quality Assurance System in operation				
	Questions	**Yes?** (√)	**Comment**	**Further action required?**
1	Is the programme Self- Evaluation Report complete?			
2	Do the most recent self-evaluation reports indicate the extent to which the criteria in the Framework for Evaluation are met and/or are being addressed?			
3	Is there an improvement plan in place, informed by external and internal review?			
4	Are there any major gaps that appear not to be addressed?			
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Efficiency Profile of admitted students Human resources Physical resources Uses made of available resources Student support Ratios of graduation to admitted students			
Academic Standards Clearly articulated standards Use of appropriate benchmarks Achievement of graduates Standards of students' assessed work			
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   ii. The timing of the external review is appropriate.
   iii. The profile of the visiting peer review panel matches in broad terms the profile of the academic activities in the institution.
   iv. There is due attention to detail in planning and preparation, by -
      a. The Quality Assurance and Academic Accreditation Directorate applies consistently its procedures for working with the institution and the reviewers and provides appropriate support for the external review as required
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   x. The institution is able to benefit from the external review by giving due reflection and consideration to the findings and preparing where appropriate a realistic improvement plan

EVALUATION

2. The Quality Assurance and Academic Accreditation Directorate wishes to establish and implement procedures for the systematic evaluation of all external Programme Reviews arranged by it. The institution, the review chairperson and the peer reviewers will all routinely be asked to evaluate each external review by completing a short questionnaire. The structured comments will be analysed by the Quality Assurance and Academic Accreditation Directorate and where necessary the Quality Assurance and Academic Accreditation Directorate will take action to follow-up any difficulties highlighted. In addition, the Quality Assurance and Academic Accreditation Directorate will collate the structured comments to compile regular summary reports indicating the main features of the review process in practice, including the overall levels of satisfaction expressed by the participants, together with examples of good practice and opportunities for continuing improvement.

GLOSSARY OF TERMS IN PROGRAMME RE-VIEW

DEFINITIONS OF TERMS USED IN THE PROGRAMME REVIEW HANDBOOK

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Academic fields categorise recognisable and coherent domains or the scope of study such as Mathematics, Medicine, Engineering and Philosophy. Fields that have a wide scope are often subdivided; for example, Humanities include subjects like History and Literature and Arts may include separate disciplines of Fine Arts and Photography. The curriculum of some programmes may combine academic fields, or may include different subjects and disciplines such as Mathematics in Engineering or Accountancy in Business Administration.

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Specific standards decided by the institution, and informed by external reference points. They include the minimum or threshold level of knowledge and skills to be gained by the graduates from the programme, and can be used in evaluation and review.

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The recognition accorded by an agency or other organisation to either an education programme or to an institution to confirm that it can demonstrate that the programme(s) meet acceptable standards and that the institution has effective systems to ensure the quality and continuing improvement of its academic activities, according to published criteria.

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Realistic plans for improvement derived from the consideration of available evidence and evaluations; they may be implemented for more than one year, but should be prepared and reviewed annually at each level of courses, programmes and the institution.

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Students registered on a programme, including those accepted holding prior credits for

admission after year 1.

BENCHMARK/REFERENCE POINTS

Benchmark statements represent general expectations about the standards of achievement and general attributes to be expected of a graduate in a given academic field or subject. Reference standards may be external or internal. External reference points allow comparison of the academic standards and quality of a programme with equivalent programmes in Iraq and internationally. Internal reference points may be used to compare one academic field with another, or to identify trends over a given time period.

COMMUNITY

A defined segment of wider society served by the institution, as determined in its mission and bylaws. It may be defined geographically or in terms of the range of organizations, groups and individuals engaged in its activities.

COURSE AIMS

Overall course aims should be expressed as the outcomes to be achieved by students completing the course as significant and assessable qualities. They should contribute to the achievement of defined aims within one or more education programmes.

CURRICULUM OR (IN THE PLURAL) CURRICULA

The complete organised learning as designed and managed by an institution for an admitted student, determined by the intended learning outcomes (ILOs) and comprising the content, the arrangements for teaching and learning and assessments of students' achievements together with the access to the range of facilities available within the University and, by arrangement, outside it, including libraries, computers studies, social, sports, internships and field studies.

DIRECTED SELF-LEARNING/INDEPENDENT LEARNING

The active promotion of personal skills included in the curriculum that support the student and graduate to seek, assimilate and learn from a range of structured and unstructured experiences. Methods of promotion include e-learning, personal and autonomous learning and fieldwork, assignments, internships, and reflexive learning. Devices commonly used that support directed self-learning beyond formal teaching lectures include logbooks, self-assessment reports, interactive learning tools or the equivalent.

E-LEARNING

Electronic-based learning using information technology may be the primary or secondary element in material associated with a programme or a course. It may be stand-alone or integrated with other teaching and learning approaches. It may include self-determination of aims, ILOs and materials using self-selection and will usually include self-assessment. It generally increases the levels of autonomy in, and responsibility for, learning. Converting existing texts or lecture notes to a website or pre-recorded media alone is generally not considered to be e-learning.

EXTERNAL EVALUATOR/EVALUATION

An appointment to a specific programme, part of a programme or course(s) by the institution

to establish an independent and external professional opinion on the academic standards set and achieved in the examinations for the award of the degree.

FRAMEWORK FOR EVALUATION

The framework for evaluation provides a standard structure for evaluation of programmes. It will form the basis for self-evaluation, the site visit by external peer reviewers and the Programme Review report. It is designed to operate in all academic fields and institutions, and to apply to internal and external reviews.

GENERAL PRECEPTS/BY-LAWS

Principles, by-laws and regulations, which the educational institution must have as part of the policies covering its operations.

HIGHER EDUCATION INSTITUTE (HEI)/INSTITUTION

A Faculty, College or University providing higher education programmes leading to a first university degree (B.Sc. or B.A.) or a higher degree.

INTENDED LEARNING OUTCOMES (ILOS)

The ILOs are the outcome-related definition of knowledge, understanding and skills which the institution intends for its programmes. They should be mission-related, capable of measurement (assessable) and reflect the use of external reference standards at appropriate level.

INTERNAL SYSTEM FOR QUALITY MANAGEMENT AND ASSURANCE

The system adopted by the institution to ensure that its education programmes and contributing elements meet specified needs and are continually reviewed and improved. An outcomes-related system of quality management involves precise specifications for quality from design to delivery; evaluation; the identification of good practice as well as of learning deficiencies and obstacles; performance follow-up; suggestions for development and enhancement; and the systematic review and development of processes for establishing effective policies, strategies and priorities to support continuing improvement.

JOB/LABOUR MARKET

The availability of professional, commercial, research-oriented or other fields of employment that a graduate is qualified to join upon graduation.

MISSION STATEMENT

A brief statement clearly identifying the educational institution's duty and its role in the development of the community; a mission statement may also offer brief supporting statements on the vision, values and strategic objectives of the institution.

PEER REVIEWER

A person who is professionally equal in calibre and with management and/or subject expertise to those delivering the provision, but not from the same institution and without any conflict of

interest, who can contribute to the review of an education programme for internal and external quality assurance or for accreditation purposes.

PROGRAMME

For the purpose of Programme Review an education programme is defined as one which admits students who, on successful completion, receive an academic award.

PROGRAMME AIMS

The broad purposes for providing the programme which in turn guide the development and implementation of strategic objectives (to ensure that the aims are met) and ILOs (to ensure that the students work towards attaining the specified outcomes).

PROGRAMME REVIEW

Programme Review applies to all education programmes in all higher education institutions. Where the programme is studied in more than one institution, the whole programme is included in Programme Review. Programme Review in Iraq has three objectives:

1) To provide decision-makers (in the higher education institutions, Quality Assurance and Academic Accreditation Directorate , parents, students, and other stakeholders) with evidence-based judgements on the quality of learning programmes
2) To support the development of internal quality assurance processes with information on emerging good practice and challenges, evaluative comment and continuing improvement
3) To enhance the reputation of Iraq's higher education internationally.

QUALITY ASSURANCE

The institution has the means of assuring that for each education programme, academic standards are defined and achieved in line with equivalent national and international standards, that the quality of the curriculum and related infrastructure are appropriate and fulfil the expectations of the range of stakeholders, that its graduates represent the range of attributes specified and that the organisation is capable of sustained, continuing improvement.

REVIEW COORDINATOR

The nominee of an institution to coordinate a Programme Review to assist in the gathering and interpretation of information and to support the application of published methods of review.

REPORT

The regular reports prepared on the basis of Programme Reviews and evaluations of its education programme.

SELF-EVALUATION

n institution's process of evaluating a programme as part of Programme Review and within an internal system of quality management and assurance.

SITE VISIT

A scheduled visit by external peer reviewers as part of Programme Review. Normally the site visit will be for two or three days. A typical outline timetable is provided in Appendix(1).

SPECIFICATION

The detailed description of the aims, construction and intended outcomes of a programme, and any courses, specific facilities or resources that contribute to it. The specification provides information to design, manage, deliver and review the programme.

STAKEHOLDER

Those organisations, groups or individuals which have a legitimate interest in the educational activities of the institution both in respect of the quality and standards of the education and also in respect of the effectiveness of the systems and processes for assuring the quality. An effective strategic review process will include the key stakeholder groups. The precise range of stakeholder groups and their differentiated interests depend upon the mission of the institution, its range of educational activities and local circumstances. The range is usually defined by a scoping study. Examples of groups with a legitimate interest include current students, graduates, intending students and their parents or family, staff in the institution, the employing community, the relevant Government ministries, the sponsors and other funding organisations and, where appropriate, professional organisations or syndicates.

STRATEGIC OBJECTIVES/PLANS

A collection of institution-specific objectives that are derived from its mission and developed into a realistic plan based on evidence-based evaluations. Objectives concentrate on the means by which an institution seeks to deliver its mission. The plan sets out the matters to be addressed, timeframe, person responsible and estimate of costs, and is accompanied by an implementation plan with arrangements for monitoring the progress and evaluating impact.

STUDENTS'ASSESSMENT

A set of processes, including examinations and other activities conducted by the institution to measure the achievement of the intended learning outcomes of a programme and its courses. Assessments also provide the means by which students are ranked according to their achievement. Diagnostic assessment seeks to determine the existing range of knowledge and skills of a student with a view to constructing an appropriate curriculum. Formative assessment provides information on the student's performance and progress to support further learning, without necessarily counting a grade towards graduation. Summative assessment determines the final level of attainment of the student on the programme or at the end of a course that contributes credits to the programme.

STUDENTS' EVALUATIONS

The systematic gathering of students'opinions on the quality of their programme in a standardized structure together with the analysis and outcomes. Surveys using questionnaires are the most frequently used methods to collect opinions; other mechanisms include websites conferences, panels or focus groups, and representation on councils or other committees.

TEACHING AND LEARNING METHODS

The range of methods used by teachers to help students to achieve the ILOs for the course. Examples include: lectures, small group teaching such as tutorials, seminars and syndicate groups; a case study to teach students how to analyse information and reach a decision; assignments such as writing a review paper for the students to gain the skills of self-learning and presentation; field trips; practical sessions for the students to gain practical skills; and carrying out experiments to train the students to analyse the results, reach specific conclusions and prepare a report, presentation or poster.

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	
2. University Department/Centre	
3. Programme Title	
4. Title of Final Award	
5. Modes of Attendance offered	
6. Accreditation	
7. Other external influences	
8. Date of production/revision of this specification	
9. Aims of the Programme	

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Knowledge and Understanding
  A1.
  A2.
  A3.
  A4.
  A5.
  A6.

B. Subject-specific skills
  B1.
  B2.
  B3.

Teaching and Learning Methods
Assessment methods

C. Thinking Skills
  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

Material selection and heat treatment for 4th year production engineering

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 technology
2. University Department/Centre	Department of production & Metallurgy
3. Course title/code	industrial engineering
4. Programme(s) to which it contributes	Production engineering
5. Modes of Attendance offered	Complete Hours
6. Semester/Year	1st & 2nd semester / year
7. Number of hours tuition (total)	2hr/w theory
8. Date of production/revision of this specification	2014

9. Aims of the Course
The aims which can be achieved during teaching this course program are as follows:
Introduce the fundamental concepts of production and productivity and work study and control chart also Type of production, General models of production operation , Mathematical models of production activity, Cost Estimation steps, Calculating cost components, Profit planning and Break –even analysis, Process engineering :process optimization, Process engineering : Statistical process control (control chart for attributes) Process engineering :process capability, Inspection planning and quality

management, Sequencing: introduction Sequencing models, Facility layout :layout based on the process, Facility layout :layout based on the product, Product planning and development, Capacity planning, Demand forecasting , Process design &planning , Martial requirement planning, Linear programming &application, Application network in engineering project, Replacement, Inventory control.

10· Learning Outcomes, Teaching ,Learning and Assessment Methode

A- Knowledge and Understanding
A1. Understanding production & productivity.
A2. Work study, control chart.

B. Subject-specific skills
B1. Lectures
B2. Tutorials and performing some experiments in laboratories.

Teaching and Learning Methods

1-Lectures and explanations.
2- Discussion and exercises.

Assessment methods

1-Test1
2- Test2
3- Quizzes and final examination

C. Thinking Skills
C1. Examinations
C2. Quizzes
C3. Exercises
C4. Home work

Teaching and Learning Methods

1-Literatares.
2- Tutorial and experiments.

Assessment methods	
1-Examinations 2- Quizzes 3-Exereses 4- Home work	

D. General and Transferable Skills (other skills relevant to employability and personal development)
  D1.Solution of different problems as applications.
  D2.
  D3.
  D4.

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
11. Course Structure					
1	2	a, c, e, d, h, k	**Introduction to manufacturing or production process analysis**	Lecture	Examination, Quizzes and discussion
2	2	a, c, e, d, h, k	**Type of production**	Lecture	Examination, Quizzes and discussion
3	2	a, c, e, d, h, k	**General models of production operation**	Lecture	Examination, Quizzes and discussion
4	2	a, c, e, d, h, k	**Mathematical models of production activity**	Lecture	Examination, Quizzes and discussion
5	2	a, c, e, d, h, k	**Cost Estimation steps**	Lecture	Examination, Quizzes and discussion
6	2	a, c, e, d, h, k	**Calculating cost components**	Lecture	Examination, Quizzes and discussion
7	2	a, c, e, d, h, k	**Profit planning and Break –even analysis**	Lecture	Examination, Quizzes and discussion
8	2	a, c, e, d, h, k	**Process engineering :process optimization**	Lecture	Examination, Quizzes and discussion
9	2	a, c, e, d, h, k	**Process engineering :process optimization**	Lecture	Examination, Quizzes and discussion
10	2	a, c, e, d, h, k	**Process engineering : Statistical process control (control chart for variable)**	Lecture	Examination, Quizzes and discussion
11	2	a, c, e, d, h, k	**Process engineering : Statistical process control (control chart for attributes)**	Lecture	Examination, Quizzes and discussion
12	2	a, c, e, d, h, k	**Process engineering :process capability**	Lecture	Examination, Quizzes and discussion
13	2	a, c, e, d, h, k	**Inspection planning and quality mangment (1)**	Lecture	Examination, Quizzes and discussion
14	2	a, c, e, d, h, k	**Inspection planning and quality mangment (2)**	Lecture	Examination, Quizzes and discussion
15	2	a, c, e, d, h, k	**Sequencing: introduction**	Lecture	Examination, Quizzes and discussion
16	2	a, c, e, d, h, k	**Sequencing models (1)**	Lecture	Examination, Quizzes and discussion

17	2	a, c, e, d, h, k	**Sequencing models (2)**	Lecture	Examination, Quizzes and discussion
18	2	a, c, e, d, h, k	**Facility layout :layout based on the process**	Lecture	Examination, Quizzes and discussion
19	2	a, c, e, d, h, k	**Facility layout :layout based on the product**	Lecture	Examination, Quizzes and discussion
20	2	a, c, e, d, h, k	**Product planning and development**	Lecture	Examination, Quizzes and discussion
21	2	a, c, e, d, h, k	**Capacity planning**	Lecture	Examination, Quizzes and discussion
22	2	a, c, e, d, h, k	**Demand forecasting**	Lecture	Examination, Quizzes and discussion
23	2	a, c, e, d, h, k	**Process design &planning**	Lecture	Examination, Quizzes and discussion
24	2	a, c, e, d, h, k	**Martial requirement planning**	Lecture	Examination, Quizzes and discussion
25	2	a, c, e, d, h, k	**Linear programming &application (1)**	Lecture	Examination, Quizzes and discussion
26	2	a, c, e, d, h, k	**Linear programming &application (2)**	Lecture	Examination, Quizzes and discussion
27	2	a, c, e, d, h, k	**Application network in engineering project (1)**	Lecture	Examination, Quizzes and discussion
28	2	a, c, e, d, h, k	**Application network in engineering project (2)**	Lecture	Examination, Quizzes and discussion
29	2	a, c, e, d, h, k	**Replacement**	Lecture	Examination, Quizzes and discussion
30	2	a, c, e, d, h, k	**Inventory control**	Lecture	Examination, Quizzes and discussion

12. Infrastructure

Required reading:
· CORE TEXTS
· COURSE MATERIALS
· OTHER

1. **Automation Production System and computer Integrated manufacturing; Mikell P. Grover; 1987.**
2. **Intelligent manufacturing System, Andrew kusiak, 1990.**
3. **Computational intelligence in design and manufacturing, Andrew kusiak 2000.**

٤. **بحوث العمليات للادارة الهندسية : الدكتور مازن بكر عادل ، الدكتور محمد كامل عليوة ، يحيى حنا ، ١٩٨٦ .**

٥. **ادارة العمليات الانتاج '' عبدالكريم محسن ، صباح مجيد النجار '' ٢٠٠٤**

Special requirements (include for example workshops, periodicals, IT software, websites)	Internet web sites
Community-based facilities (include for example, guest Lectures , internship , field studies)	Lectures

13. Admissions	
Pre-requisites	Pass from last stage (year)
Minimum number of students	No limit
Maximum number of students	No limit

TEMPLATE FOR TYPICAL SITE VISIT CHEDULE

1. The typical site visit schedule is designed for two or three days. It includes pre-arranged meetings. The responsibility for arranging these meetings and fitting the template to the circumstances rests with the Universities Quality Assurance and University Performance departments

2. Site visits will normally commence at 09:00 on day 1. Start times of pre-arranged meetings are indicated. Pre-arranged meetings should not normally last more than one hour. The schedule should not completely fill all times with meetings, but leave space for additional activities by peer reviewers including preparing for meetings, updating notes and records and drafting paragraphs for the draft Programme Review report

Table (1)

Session	Time	Activity
Day 1		
1	09:00	Welcome and introductions; brief introduction to the review (purposes, intended outcomes, use of evidence and self-evaluation report) – Programme Team
2	09:30	Curriculum; discussion with faculty members
3	11:00	Meeting with a group of students
4	12:30	Efficiency: tour of resources
5	14:00	Review panel meeting: scrutiny of additional documentation including sample of students' assessed work
6	15:00	Efficiency: meeting with faculty members
7	16:00	Review panel meeting: review of the evidence and any gaps or matters to follow-up
8	17:00	Meeting with external stakeholders (sample of graduates, employers, other partners)
Day 2		
9	08:45	Review meeting with review chairperson, review coordinator, programme leader: summary of day 1 findings, addressing any gaps, adjust the schedule for day 2 if required
10	09:00	Academic standards: meeting with faculty members
11	10:30	Effectiveness of quality management and assurance: meeting with faculty members
12	12:00	Review panel meeting: review of evidence and any matters still to be addressed
13	14:00	Flexible time to pursue any matters arising
14	14:30	Review panel final meeting: decisions on outcomes and drafting oral feedback
15	16:30	Oral feedback by review chairperson to review coordinator and faculty members

	17:00	Close

TEMPLATE FOR THE FOLLOW-UP PROCESS AND REPORT, AND OUTLINE OF TYPICAL SITE VISIT SCHEDULE FOR FOLLOW-UP

TEMPLATE FOR FOLLOW-UP REPORT

Quality Assurance and Academic Accreditation Directorate / International Accreditation Department.

Institution:

Faculty:

Programme:

Follow-up Report

1. This report presents the findings of the follow-up visit, which took place on / /20__. This is part of the Universities Quality Assurance and University Performance departments arrangements to provide continuing support for the development of internal quality assurance processes and continuing improvement

2. The purposes of the follow-up review are to assess the progress made in the programme since the Programme Review report, and to provide further information and support for the continuing improvement of academic standards and quality of higher education in Iraq.

3. The evidence base used in this follow-up review and report includes:
    a) Self-Evaluation Report for the programme together with supporting information
    b) Improvement plan prepared and implemented since the Programme Review report
    c) Programme Review Report
    d) Higher Education Quality Review Report and institutional strategic plan (if any)
    e) Additional evidence presented during the follow-up visit.

4. The overall conclusions reached as the outcome of the follow-up review are as follows:
    a) The programme (give title) at (give name of institution) has/has not successfully implemented an improvement plan.
    b) Good practice in the indicators demonstrated since the Programme Review site visit includes: (insert)
    c) Matters of particular importance that should be addressed by the institution in its continuing improvement of the programme are: (insert and indicate if they are, or as yet are not, addressed by the improvement plan).

5. The detailed report is provided in Annexure A below.

Annexure A

Name of Institution_____

Date of initial Programme Review site visit_____

Date visited in follow-up   _____

Date of follow-up report   _____

Names of follow-up reviewers   Position/title   Signed

	Part 1: The Internal Quality Assurance System in operation			
	Questions	**Yes?** (√)	**Comment**	**Further action required?**
1	Is the programme Self- Evaluation Report complete?			
2	Do the most recent self-evaluation reports indicate the extent to which the criteria in the Framework for Evaluation are met and/or are being addressed?			
3	Is there an improvement plan in place, informed by external and internal review?			
4	Are there any major gaps that appear not to be addressed?			
5	Is progress with the improvement plan monitored?			
6	Are there any major obstacles to the expected achievementof the improvement plan?			
7	What is the institution's estimate of the time needed to complete improvements to the programme?			
8	What is the reviewers' assessment of the time needed to complete improvements to the programme that would demonstrate the indicators?			

Part 2: Progress demonstrated with the indicators			
Indicators (refer to Framework of Evaluation)	Improvement plan points (comment on match with the Programme Review report's recommendations)	New information from follow-up site visit	Overall Conclusion
Curriculum Aims and ILOs Syllabus (content) Progression year on year Teaching and Learning Student assessment			
Efficiency Profile of admitted students Human resources Physical resources Uses made of available resources Student support Ratios of graduation to admitted students			
Academic Standards Clearly articulated standards Use of appropriate benchmarks Achievement of graduates Standards of students' assessed work			
Programme management and Assurance Arrangements for programme management Policies and procedures applied Structured comments collected and used Staff development needs identified and addressed Improvement planning processes working			

CRITERIA FOR A SUCCESSFUL REVIEW AND EVALUATION OF THE PROCESS

CRITERIA FOR A SUCCESSFUL REVIEW

1. The criteria for a successful review that informs the arrangements for Programme Review and its evaluation are as follows:

   i. The programme being reviewed is supported by existing or developing internal systems including specifications and review with a culture of self-evaluation and continuing improvement. These features of internal review provide a sound basis for the external review.

   ii. The timing of the external review is appropriate.

   iii. The profile of the visiting peer review panel matches in broad terms the profile of the academic activities in the institution.

   iv. There is due attention to detail in planning and preparation, by -

      a. The Quality Assurance and Academic Accreditation Directorate applies consistently its procedures for working with the institution and the reviewers and provides appropriate support for the external review as required

      b. The review coordinator: ensures that the evidence base generated by internal review and reporting systems is available on time to the visiting peer reviewers, and any requirements for clarification and supplementary information are satisfied

      c. The institution: provides a self-evaluation report for the programme to be externally reviewed

      d. The peer reviewers: undertake their preparation for the visit including reading the advance documentation and preparing initial commentaries that inform the conduct of the visit

   v. There is consistency in the application of the published review method and the protocols by all participants in a way that respects and supports the mission and philosophy of the overall process for continuing review and continuing improvement.

   vi. Reviewers and representatives of the institution conduct an open dialogue throughout the review that shows mutual respect.

   vii. The judgements reached by the reviewers are clear, based on the evidence available and systematically recorded.

   viii. The review report is produced on time in line with the standard report structure and is confirmed by the institution to be factually accurate.

   ix. The set of conclusions arising from the review are constructive, offering a fair and balanced view of the programme.

   x. The institution is able to benefit from the external review by giving due reflection and consideration to the findings and preparing where appropriate a realistic improvement plan

EVALUATION

2. The Quality Assurance and Academic Accreditation Directorate wishes to establish and implement procedures for the systematic evaluation of all external Programme Reviews arranged by it. The institution, the review chairperson and the peer reviewers will all routinely be asked to evaluate each external review by completing a short questionnaire. The structured comments will be analysed by the Quality Assurance and Academic Accreditation Directorate and where necessary the Quality Assurance and Academic Accreditation Directorate will take action to follow-up any difficulties highlighted. In addition, the Quality Assurance and Academic Accreditation Directorate will collate the structured comments to compile regular summary reports indicating the main features of the review process in practice, including the overall levels of satisfaction expressed by the participants, together with examples of good practice and opportunities for continuing improvement.

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Overall course aims should be expressed as the outcomes to be achieved by students completing the course as significant and assessable qualities. They should contribute to the achievement of defined aims within one or more education programmes.

CURRICULUM OR (IN THE PLURAL) CURRICULA

The complete organised learning as designed and managed by an institution for an admitted student, determined by the intended learning outcomes (ILOs) and comprising the content, the arrangements for teaching and learning and assessments of students' achievements together with the access to the range of facilities available within the University and, by arrangement, outside it, including libraries, computers studies, social, sports, internships and field studies.

DIRECTED SELF-LEARNING/INDEPENDENT LEARNING

The active promotion of personal skills included in the curriculum that support the student and graduate to seek, assimilate and learn from a range of structured and unstructured experiences. Methods of promotion include e-learning, personal and autonomous learning and fieldwork, assignments, internships, and reflexive learning. Devices commonly used that support directed self-learning beyond formal teaching lectures include logbooks, self-assessment reports, interactive learning tools or the equivalent.

E-LEARNING

Electronic-based learning using information technology may be the primary or secondary element in material associated with a programme or a course. It may be stand-alone or integrated with other teaching and learning approaches. It may include self-determination of aims, ILOs and materials using self-selection and will usually include self-assessment. It generally increases the levels of autonomy in, and responsibility for, learning. Converting existing texts or lecture notes to a website or pre-recorded media alone is generally not considered to be e-learning.

EXTERNAL EVALUATOR/EVALUATION

An appointment to a specific programme, part of a programme or course(s) by the institution to establish an independent and external professional opinion on the academic standards set and achieved in the examinations for the award of the degree.

FRAMEWORK FOR EVALUATION

The framework for evaluation provides a standard structure for evaluation of programmes. It will form the basis for self-evaluation, the site visit by external peer reviewers and the Programme Review report. It is designed to operate in all academic fields and institutions, and to apply to internal and external reviews.

GENERAL PRECEPTS/BY-LAWS

Principles, by-laws and regulations, which the educational institution must have as part of the policies covering its operations.

HIGHER EDUCATION INSTITUTE (HEI)/INSTITUTION

A Faculty, College or University providing higher education programmes leading to a first university degree (B.Sc. or B.A.) or a higher degree.

INTENDED LEARNING OUTCOMES (ILOS)

The ILOs are the outcome-related definition of knowledge, understanding and skills which the institution intends for its programmes. They should be mission-related, capable of measurement (assessable) and reflect the use of external reference standards at appropriate level.

INTERNAL SYSTEM FOR QUALITY MANAGEMENT AND ASSURANCE

The system adopted by the institution to ensure that its education programmes and contributing elements meet specified needs and are continually reviewed and improved. An outcomes-related system of quality management involves precise specifications for quality from design to delivery; evaluation; the identification of good practice as well as of learning deficiencies and obstacles; performance follow-up; suggestions for development and enhancement; and the systematic review and development of processes for establishing effective policies, strategies and priorities to support continuing improvement.

JOB/LABOUR MARKET

The availability of professional, commercial, research-oriented or other fields of employment that a graduate is qualified to join upon graduation.

MISSION STATEMENT

A brief statement clearly identifying the educational institution's duty and its role in the development of the community; a mission statement may also offer brief supporting statements on the vision, values and strategic objectives of the institution.

PEER REVIEWER

A person who is professionally equal in calibre and with management and/or subject expertise to those delivering the provision, but not from the same institution and without any conflict of interest, who can contribute to the review of an education programme for internal and external quality assurance or for accreditation purposes.

PROGRAMME

For the purpose of Programme Review an education programme is defined as one which admits students who, on successful completion, receive an academic award.

PROGRAMME AIMS

The broad purposes for providing the programme which in turn guide the development and

implementation of strategic objectives (to ensure that the aims are met) and ILOs (to ensure that the students work towards attaining the specified outcomes).

PROGRAMME REVIEW

Programme Review applies to all education programmes in all higher education institutions. Where the programme is studied in more than one institution, the whole programme is included in Programme Review. Programme Review in Iraq has three objectives:

1) To provide decision-makers (in the higher education institutions, Quality Assurance and Academic Accreditation Directorate , parents, students, and other stakeholders) with evidence-based judgements on the quality of learning programmes
2) To support the development of internal quality assurance processes with information on emerging good practice and challenges, evaluative comment and continuing improvement
3) To enhance the reputation of Iraq's higher education internationally.

QUALITY ASSURANCE

The institution has the means of assuring that for each education programme, academic standards are defined and achieved in line with equivalent national and international standards, that the quality of the curriculum and related infrastructure are appropriate and fulfil the expectations of the range of stakeholders, that its graduates represent the range of attributes specified and that the organisation is capable of sustained, continuing improvement.

REVIEW COORDINATOR

The nominee of an institution to coordinate a Programme Review to assist in the gathering and interpretation of information and to support the application of published methods of review.

REPORT

The regular reports prepared on the basis of Programme Reviews and evaluations of its education programme.

SELF-EVALUATION

n institution's process of evaluating a programme as part of Programme Review and within an internal system of quality management and assurance.

SITE VISIT

A scheduled visit by external peer reviewers as part of Programme Review. Normally the site visit will be for two or three days. A typical outline timetable is provided in Appendix(1).

SPECIFICATION

The detailed description of the aims, construction and intended outcomes of a programme, and any courses, specific facilities or resources that contribute to it. The specification provides information to design, manage, deliver and review the programme.

STAKEHOLDER

Those organisations, groups or individuals which have a legitimate interest in the educational activities of the institution both in respect of the quality and standards of the education and also in respect of the effectiveness of the systems and processes for assuring the quality. An effective strategic review process will include the key stakeholder groups. The precise range of stakeholder groups and their differentiated interests depend upon the mission of the institution, its range of educational activities and local circumstances. The range is usually defined by a scoping study. Examples of groups with a legitimate interest include current students, graduates, intending students and their parents or family, staff in the institution, the employing community, the relevant Government ministries, the sponsors and other funding organisations and, where appropriate, professional organisations or syndicates.

STRATEGIC OBJECTIVES/PLANS

A collection of institution-specific objectives that are derived from its mission and developed into a realistic plan based on evidence-based evaluations. Objectives concentrate on the means by which an institution seeks to deliver its mission. The plan sets out the matters to be addressed, timeframe, person responsible and estimate of costs, and is accompanied by an implementation plan with arrangements for monitoring the progress and evaluating impact.

STUDENTS' ASSESSMENT

A set of processes, including examinations and other activities conducted by the institution to measure the achievement of the intended learning outcomes of a programme and its courses. Assessments also provide the means by which students are ranked according to their achievement. Diagnostic assessment seeks to determine the existing range of knowledge and skills of a student with a view to constructing an appropriate curriculum. Formative assessment provides information on the student's performance and progress to support further learning, without necessarily counting a grade towards graduation. Summative assessment determines the final level of attainment of the student on the programme or at the end of a course that contributes credits to the programme.

STUDENTS' EVALUATIONS

The systematic gathering of students'opinions on the quality of their programme in a standardized structure together with the analysis and outcomes. Surveys using questionnaires are the most frequently used methods to collect opinions; other mechanisms include websites conferences, panels or focus groups, and representation on councils or other committees.

TEACHING AND LEARNING METHODS

The range of methods used by teachers to help students to achieve the ILOs for the course. Examples include: lectures, small group teaching such as tutorials, seminars and syndicate groups; a case study to teach students how to analyse information and reach a decision; assignments such as writing a review paper for the students to gain the skills of self-learning and presentation; field trips; practical sessions for the students to gain practical skills; and carrying out experiments to train the students to analyse the results, reach specific conclusions and prepare a report, presentation or poster.