

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

This Program Specification provides a concise summary of the main features of the program 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 program.

1. Teaching Institution	College of Science /University of Diyala
2. University Department/Centre	physics
3. Program Title	Numerical analysis
4. Title of Final Award	Bachelor
5. Modes of Attendance offered	course
6. Accreditation	
7. Other external influences	
8. Date of production/revision of this specification	1/6/2021
9. Aims of the Program	
1- Urging students to complete the course plan	
2- Commitment to study vocabulary as a curriculum within a time-limited study plan	
3- Updating the vocabulary by the teaching staff to less than 15% annually.	
4- Monitoring the extent of adherence to the study plan	

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Cognitive goals

A1- Understand and comprehend the material in terms of the required (programmed) vocabulary

A-2- power point

A-3- Use of the board and pen

A-4- Preparing explanatory aids

A-5- Preparing brief reports for some topics

B. The skills goals special to the programme .

B1 - Skills according to the student's ability

B2 - high thinking skills

B3 - Criticism in learning

Teaching and Learning Methods

lecture method

Student group method

Research method and extra-curricular activities

Assessment methods

The method of the semester and final exams.

Homework.

Activity during the lecture.

C. Affective and value goals

C1- Brainstorming

C2- Logical analysis of problems and their solution

Teaching and Learning Methods

Theoretical lectures

Research Methods

e-learning

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

- D1 - verbal communication
- D 2- Teamwork
- D3 - Analysis and application
- D 4- Time management
- D 5- Planning and Organizing

11. Program Structure				12. Awards and Credits
Level/Year	Course or Module Code	Course or Module Title	Credit rating	
The second stage		Numerical analysis	theoretical	Bachelor Degree Requires (x) credits

13. Personal Development Planning

Constant keenness to follow up what is taught in international universities in order to improve the current curricula and develop it with what keeps pace with global development

Constant keenness to use educational entertainment means to make the student want to learn more and benefit from it

Practicing solutions to exercises a lot to improve the student's abilities

14. Admission criteria .

15. Key sources of information about the programme

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

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

1. Teaching Institution	College of Science / <i>University of Diyala</i>
2. University Department/Centre	physics
3. Course title/code	
4. Modes of Attendance offered	Numerical analysis
5. Semester/Year	Semester
6. Number of hours tuition (total)	30 hours
7. Date of production/revision of this specification	1/6/2021
8. Aims of the Course	
1- Urging students to complete the course plan	
2- Commitment to study vocabulary as a curriculum within a time-limited study plan	
3- Updating the vocabulary by the teaching staff to less than 15% annually.	
4- Monitoring the extent of adherence to the study plan	

9. Learning Outcomes, Teaching ,Learning and Assessment Methods

A- Cognitive goals .

. A1- Understand and comprehend the material in terms of the required (programmed) vocabulary

A-2- power point

A-3- Use of the board and pen

A-4- Preparing explanatory aids

A-5- Preparing brief reports for some topics

B. The skills goals special to the course. B1 - Skills according to the student's ability

B2 - high thinking skills

B3 - Criticism in learning

Teaching and Learning Methods

The method of the semester and final exams.

Homework.

Activity during the lecture.

Assessment methods

The method of the semester and final exams.

Homework.

Activity during the lecture.

C. Affective and value goals

C1- Brainstorming

C2- Logical analysis of problems and their solution

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

D1 - verbal communication

D2 - Teamwork

D3 - Analysis and application

D4 - Time management

D5 - Planning and Organizing

10. Course Structure

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	2	Definition of the student's types Nonlinear Equations and Methods Solve it numerically	Numerical analysis	The blackboard and the data show	Monthly and daily exams and homework
2	2	Introducing the student halving	Numerical analysis	The blackboard and the data show	Monthly and daily exams and homework
3	2	Introduce the student to Newton's method Raphson and its importance	Numerical analysis	The blackboard and the data show	Monthly and daily exams and homework
4	2	Introduce the student to the site method the sinner	Numerical analysis	The blackboard and the data show	Monthly and daily exams and homework
5	2	Introduce the student to the point method fixed	Numerical analysis	The blackboard and the data show	Monthly and daily exams and homework
6	2	the first exam	Numerical analysis	The blackboard and the data show	Monthly and daily exams and homework
7	2	Introduce the student to the types Ordinary Differential Equations And ways to solve it numerically	Numerical analysis	The blackboard and the data show	Monthly and daily exams and homework
8	2	Introduce the student to Euler's method	Numerical analysis	The blackboard and the data show	Monthly and daily exams and homework
9	2	Introducing the student to the RANGE method	Numerical analysis	The blackboard and the data show	Monthly and daily exams and homework

		quota			
10	2	Introduce the student to the importance of integration Numerical and its difference from integration Analytical	Numerical analysis	The blackboard and the data show	Monthly and daily exams and homework
11	2	Introducing the student Squares and Trapezoid Method	Numerical analysis	The blackboard and the data show	Monthly and daily exams and homework
12	2	simple pendulum	Numerical analysis	The blackboard and the data show	Monthly and daily exams and homework
13	2	Introducing the student to the Simpsons method	Numerical analysis	The blackboard and the data show	Monthly and daily exams and homework
14	2	Introduce the student in a table manner Romberg	Numerical analysis	The blackboard and the data show	Monthly and daily exams and homework
15	2	second exam	Numerical analysis	The blackboard and the data show	Monthly and daily exams and homework

11. Infrastructure	
1. Books Required reading:	Numerical Analysis by Richard Burden and Douglas Faires
2. Main references (sources)	1- Schaum's Outline of Numerical Analysis. 2- Applied Numerical Analysis by Curtis Gerald & Patrick Wheatley.
A- Recommended books and references (scientific journals, reports...).	1- Numerical Methods for Scientists and Engineers, R. W. Hamming 2- Analysis of Numerical Methods, Isaacson and Keller 3- Numerical Mathematics and Computing by E. Ward Cheney and David R. Kincaid
B-Electronic references, Internet sites...	http://ocw.mit.edu/courses/mathematics/18-330-introduction-to-numerical-analysis-spring-2012 http://mathforum.org/advanced/numerical.html

12. The development of the curriculum plan

Familiarity with all that is new and new in teaching and learning strategies.
The application of some modern teaching strategies.
Update used software annually.

