

NE264 Scientific Thinking

COURSE INFORMATION

Prerequisites	Academic Year & Level		Teaching Methods			Credit Hrs.
	Year	Semester	Lecture	Tutorial	Lab.	
None	2	4	3			3

COURSE AIM

The main goal of the course is to develop the student skills in applying different methods of Scientific Thinking.

COURSE WEEKLY CONTENTS

- 1 Introduction about Nature of Scientific Thinking and Thinking Patterns Development
- 2 Meaning & Construction of Science + Scientific Values & attitudes
- 3 Science, non-science & other-than science + Science, Engineering & Technology
- 4 Properties of science
- 5 Objectives of science + Postulates of scientific Thinking
- 6 Mental operations used in science + Scientific Guessing
- 7 Types of deductions- Midterm Exam
- 8 Research methods in mathematical sciences + Postulates, definitions
- 9 Research methods in natural sciences
- 10 Experiments & Observations + Scientific postulates & their conditions
- 11 Verification of scientific postulates
- 12 Problems solving + general methods of problems solving- 12th Assessment
- 13 Creative Thinking + Fluency types
- 14 Flexibility & Originality + Basics of Brain Storming
- 15 Revision

STUDENT GRADING & ASSESSMENT

Weeks	Exams	Assign.	Quizzes	Reports	Present.	Lab.	Total
1 to 7	20 Midterm	←	1 0	M A R K S		→	30
To be freely distributed among possible assessments							
8 to 12	←		2 0	M A R K S		→	20
13 to 15	←		1 0	M A R K S		→	10
16 or 17	40 Final						40
Total	Exams	Assign.	Quizzes	Reports	Present.	Lab.	100

REFERENCES

Textbook Lecture Notes of Scientific Thinking
 Other