NATIONAL UNIVERSITY OF ENGINEERING
COLLEGE OF CHEMICAL AND TEXTILE ENGINEERING
TEXTILE ENGINEERING PROGRAM

QU335 – LABORATORY OF ORGANIC CHEMISTRY II

I. GENERAL INFORMATION

CODE	**:**	QU335 Laboratory of Organic Chemistry II
SEMESTER	**:**	6
CREDITS	**:**	1
HOURS PER WEEK	**:**	3 (Laboratory)
PREREQUISITES	**:**	QU324 Organic Chemistry I QU325 Laboratory of Organic Chemistry I
CONDITION	**:**	Compulsory

II. COURSE DESCRIPTION

This is course is complementary to theory course QU334 Organic Chemistry II. Students develop skills for the handling of chemical reactants, materials, laboratory instruments and equipment, applying safety norms. In this laboratory course, students experimentally verify the theoretical concepts and methods presented in course QU334 Organic Chemistry II.

III. COURSE OUTCOMES

At the end of the course, students:

1. Carefully use chemical reactants in proper quantity and concentration according to the experiment to be done.
2. Use instruments, devices and equipment proper of the experimental practice of chemical engineering.
3. Take care safety and security measures in the handling of chemical reactants, instruments and equipment.
4. Write laboratory reports clearly describing carried out experiments, analyzing results and presenting conclusions.

IV. COURSE CONTENTS

1. Alkaloid separation. Part 1

2. Alkaloid separation. Part 2

3. Aromatic hydrocarbons. Part 1

4. Aromatic hydrocarbons. Part 2

5. Infrared spectroscopy

6. Visible ultra-violet spectroscopy

7. Aldehydes and ketones. Part 1

8. Carboxylic acids

9. Derivatives of carboxylic acids

10. Aldehydes and ketones. Part 2

11. Amines

12. Diazonium salts

13. Phenols

VI. METHODOLOGY

There is a guide for every laboratory experience students should read before the experience. At the beginning of the experience, an entrance test is taken to verify the preparedness of students. Students carry out the experience working by teams and following guide indications and faculty advice. At the end of the experience, students submit a report summarizing main results, analysis and conclusions. Student active participation is promoted.

VII. GRADING SYSTEM

The Final Grade (FG) is calculated with the following formula:

FG = (10 PP + 1 C1 + 2 C2) / 13

PP: Average grade of five laboratory experience work and report
C1: Average of entrance quizzes C2: Average of final quizzes

VIII. BIBLIOGRAPHY

1. **BREÑA J., NEYRA E., VIZA C.**
   Organic Chemistry II - Laboratory Guide
   National University of Engineering, Lima, Peru, 2010
2. **FIESER Louis**
   Organic Chemistry Experiments , Reverte Editorial, Barcelona, Spain.