IRAN UNIVERSITY OF MEDICAL SCIENCES

School of pharmacy

Department Medicinal Chemistry

Course title: Organic Chemistry II

Credit (Theory or Practical): 1 credit (practical)

Prerequisite: Organic Chemistry I

Course Lecturers: Dr.Mokhtari, Dr. Asadi, Dr. Golsanamlou

Responsible Lecturer: Dr.Mokhtari

Student responsibilities*:*

- Regular attendance in class and compliance with laboratory rules
- Reviewing the agenda and participating in class discussions
- Performing practical work and submitting a practical work report
- Completing and submitting the project on time
- Final exam

Basis of evaluation	Dr. Mokhtari	Dr. Asadi	Dr. Golsanamloo	Percentage of total score
Final exam(theoretical)	5	5	-	50
Final exam(practical)	2	2	-	20
Doing homework, projects and answering exercises	2.5	2.5	1	30

Course Description:

- Course objectives:

1- Introduce students to methods for identifying organic compounds
2- Introduce students to different methods for synthesizing organic compounds
3- Introduce students to methods for identifying functional groups and performing identification tests
4- Introduce students to methods for purifying synthesized compounds and specific reactions for synthesizing substances
5- Synthesis of Aspirin
6- Synthesis of Acetaminophen

Student Learning Objectives:

Students will be introduced to methods for identifying organic compounds
- Alcohols and phenols
- Aldehydes, ketones and alkenes

- Amines and amides
- Carboxylic acids

2- Students will be introduced to different methods for synthesizing organic compounds
- Functional group protection reaction (acetylation) - Aniline acetylation
- Acetanylide nitration reaction
- Para-nitroacetylide ester hydrolysis reaction
- Aspirin preparation reaction
- Acetaminophen preparation reaction
- Purification and recrystallization of the resulting compounds

3- Students will be introduced to some applied software in chemistry
- Introduction to Chem Draw software

Organic Chemistry II Course Plan (M-Pharm)

Wednesdays 13-15

	subject	Lecturer	Date
1	Reminding of important safety tips in the laboratory and signing a commitment to comply with safety principles	Dr. Mokhtari	01.12.1403
2	Determination of Solubility (Salicylic acid, p-nitroaniline, ß-Naphthol)	Dr. Mokhtari	08.12.1403
3	A) Distinguish Tests (Different types of Alcohols and phenolic compounds) B) Distinguish Tests (aldehyde, ketones, acids)	Dr. Mokhtari	15.12.1403
4	Distinguish Tests of Amines, Nitrous acid test	Dr. Mokhtari	22.12.1403
5	Principle of Chem Draw	Dr.Golsanamlou	20.01.1404
6	A) Preparation of p-Nitroacetanilide – Aromatic Nitration B) Determination of melting point of Acetanilide	Dr. Mokhtari	27.01.1404
7	Synthesis of *p*-Nitroaniline - Acid Hydrolysis	Dr. Asadi	03.02.1404
8	A) Synthesis of Aspirin B) Aspirin Recrystallization	Dr. Asadi	10.02.1404
9	A) Synthesis of Acetaminophen B) Acetaminophen Recrystallization	Dr. Asadi	17.02.1404
10	Final Exam (Theoretical and Practical)	-	18.03.1404

References:

1- Vogel's Textbook of Practical Organic Chemistry. Vogel AI et al., Pearson, The latest edition.

Notes:

- All classes will be held in Besarati (Eastern 7) street, North Shahin Boulevard

The absence hours of a student should not exceed 4/17 in theoretical, 2/17 in practical and laboratorial. Otherwise, the score for that course or section will be considered as zero.

Note 1: allowed absences are accepted provided that students bring in documents for that and the related professor approves it. Acting against absences (either excused or not) will be the decision of the professor and agreement of the college.