Subject Descriptions

Subject Code	MATH 343
Subject Name	Abstract Algebra II
Credit Hours	3
Level of Study	3
Pre-Requisites	MATH 342
Faculty	Science

Subject Description

Direct product, and finitely generated abelian groups - Group action -Theory of p-groups, Sylow theorems and its applications - Ring, Subrings, and factor rings, ring Homomorphism - Integral domain, Division rings, and fields - Polynomial rings, and irreducible polynomials rings - Unique Factorization domain - Fields theory and Quotient fields.

Subject Aims

1. Describe the fundamental principles of external and internal direct products.
2. Distinguish between the two versions of direct products of groups.
3. State the fundamental theorem of finite abelian groups.
4. Apply the fundamental theorem of finite abelian groups.
5. Develop mathematical reasoning, and problem-solving skills.
6. Apply Sylow Theorems to identify simple groups.

Intended Learning Outcomes

1. To know the different between the external and the internal direct product.
2. To compare between the two version of direct product.
3. To know Cauchy Theorem for Abelian and non-Abelian groups.
4. To specify all isomorphic groups of a specific order up to isomorphism
5. Knowing that there are partial cases the converse of Lagrange Theorem is satisfied.
6. knowing how to use Sylow Theorems to characterize different properties of finite groups.

Teaching Details

Lectures, supported by lecture notes with problem sets and model solutions, problems classes and small group tutorials.

Assessment Details

	Percentage Formal assessment
First Exam	25%
Second Exam	25%
Final Exam	40%
In-course Assessment	10%
Total Percentage	100%

Teaching Schedule and Support for Students

	Hours
Lecture	39
Tutorial	13
Practical	0
Office hours	6 hr/week
Academic Advising	5 hr/week

Textbook Information

Author	Date	Title	Edition	Publisher
Joseph Gallian	2012	Contemporary abstract algebra	7th	Brooks Cole