**生物化学（01.121.3.1）**

生物化学是一门从分子水平研究生命的化学组成及其在生命活动过程中化学变化的一门学科，其主要内容包括生物分子、物质代谢、基因信息及专题医学生化四部分，第一部分生物分子包括糖类化学、脂类化学、蛋白质化学及核酸化学四个章节，主要介绍这些生物分子的结构和功能，是物质代谢的基础，由于糖类和脂类已在前期有机化学课程中介绍，生物化学课程主要从蛋白质化学和核酸化学这两章开始介绍；第二部分物质代谢包括酶、维生素、生物氧化、糖代谢、脂类代谢、蛋白质分解代谢和核苷酸代谢，这是生物化学的核心内容，物质代谢的异常与疾病发生发展密切相关；第三部分基因信息主要包括遗传信息的储存、表达及其调控、细胞信息传递、基因克隆技术、基因诊断和治疗，这部分内容在进一步认识生命现象的本质、诠释细胞分子变化与疾病发生发展的关系及从分子水平上对重大疾病的治疗预防提供科学依据和应对策略等方面具有非常重要的意义。第四部分专题医药学生化主要包括肝胆生化和药物代谢，这部分内容主要介绍肝脏与药物、毒物（如胆色素）代谢的关系及药物代谢的规律、特点，为后续药学课程的学习奠定基础。

Biochemistry is a course to introduce the chemical structures and reactions in life activity, including biological molecules, metabolism, gene information and special subjects for medical biochemistry. The first part introduces chemistry of biological molecules, including sugar, lipid, protein and nucleic acid. The structure and function of biological molecules mainly introduced in these chapters are the basis of material metabolism. As the sugars and lipids have been introduced in the early course of the organic chemistry, protein and nucleic acid chemistry are introduced in biochemistry. The second part introduces metabolism, including enzymes, vitamin, biological oxidation, sugar metabolism, lipid metabolism, protein catabolism and nucleotide metabolism, which is the core content of biochemistry. Metabolic abnormalities are associated with disease development. The third part introduces the genetic information, including store, expression and regulation of genetic information, signal tranduction, gene cloning, gene diagnosis and therapy. This part interprets the cellular and molecular changes in relation with the development of the disease and treatment of major disease from the molecular level, and is important for further understanding of the essence of life. The fourth part introduces special subjects for medical biochemistry mainly including liver biochemistry and drug metabolism, this part mainly introduces metabolism of medicines and poisons in the liver to establish a foundation for subsequent pharmaceutical course.