Diploma

Code	Course	Description
0905602	Advanced pharmaceutical organic chemistry	Compulsory element Lectures: 3 credit hrs Total: 3 credit hrs Generation and dissemination of high quality comprehensive knowledge grounded in the disciplinary divisions of Pharmaceutical Organic Chemistry. Development of elite master graduates who display independent thought and acquire advanced knowledge and skills to apply Pharmaceutical Organic Chemistry successfully within their disciplines. To provide students with relevant Organic Chemistry subjects that can be easily related to their current work and/or experience to their studies. To encourage highlighting the importance of Pharmaceutical Organic Chemistry research in drug industry through generation of skilled scientists that integrate Organic Chemistry and Biological Sciences for improving drug discovery and enhancing human health.
0900701	Computer science and medical informatics	**Theoretical** 2 hours/week **Tutorial:** **Practical** – **Total No. of hours:** 2 hours/week Computer Sciences have shown great advances during the previous years, affecting and enhancing lots of other sciences through their applications in different fields especially in health care. • Introduce different computer applications (including office programmes) to the students that have direct impact on their daily life and that might have a good contribution to their research fields. • Demonstrate theoretical knowledge and have practical skills of the most common computer networks (wired and wireless networks), relational database, and modern programming concepts, introducing basics of programming. • Identify appropriate internet sources and their

		utilization and evaluation. • Exhibit competence in knowledge and understanding of principles of biomedical Informatics and its applications in health care.
0905604	Drug design	Compulsory element Lectures: 3 credit hrs Total: 3 credit hrs • The course aims to describe to the students the concept of structure – based drug design including computer aided drug design as well as the different types of receptors. • Highlighting the mode of interaction of drugs with receptors. • Highlighting in silico drug design. • Describe the quantitative structure activity relationship. • Describe the concept of computer visualization and molecular modeling.
0905601	Drug synthesis	Compulsory element Lectures: 3 credit hrs Total: 3 credit hrs Generation and dissemination of high quality comprehensive knowledge grounded in the disciplinary divisions of Pharmaceutical Organic Chemistry and Synthetic Medicinal Chemistry. • Develop elite master graduates who display independent thought and acquire advanced knowledge and skills to apply Pharmaceutical Organic Chemistry and Synthetic Medicinal chemistry successfully within their disciplines. • Provide students with relevant Organic Chemistry and Synthetic Chemistry subjects that can be easily related to their current work and/or experience to their studies. • Encourage highlighting the importance of Synthetic Medicinal Chemistry research in drug industry through generation of skilled scientists that integrate Synthetic Medicinal Chemistry and Biological Sciences for improving drug discovery and enhancing human health.

0905603	Identification and Determination of Purity of Drugs	Compulsory element Lectures: 2 credit hrs practical: 1 credit hr Total: 3 credit hrs The course deals with various aspects of Impurities profiling of drugs including, characterization of the sources of impurities, detection, identification/structure elucidation and quantitative determination of organic, inorganic impurities and residual solvents in bulk drugs and pharmaceutical formulations .The course also covers the special problems of degradation products as impurities as well as the estimation of enantiomeric purity of chiral drugs.
0905605	Quantification of dosage forms	Compulsory element Lectures: 2 credit hrs practical: 1 credit hr Total: 3 credit hrs The course provide a thorough understanding of the principle of different methods used for drug analysis including functional group analysis, recent reagents utilized for derivatization of weakly absorbed drugs, selected applications of stability indicating methods, Selected applications of advanced analytical methods to problems in pharmaceutical analysis, different techniques used for separation of drugs from various dosage forms, and validation of analytical methods.
0905606	Selected Topics in Advanced Medicinal Chemistry	Compulsory element Lectures: 3 credit hrs Total: 3 credit hrs -Provide the post graduate student a wide and diverse scientific background, and a rewarding and challenging program of study. Areas of active interest include chemistry of natural and synthetic drugs of different pharmacological classes, structure-activity relationship, drug mechanism, drug metabolism and molecular toxicology and many other related topics. -Offering to the community professional pharmacists and talented innovative researchers that may help in the discovery and development of new drugs that will enrich

		the pharmaceutical industry in Egypt.
0900704	Separation techniques and electrochemical analytical methods	Lectures: 3 hrs /week Total: 3 hrs/week **The course aims to:** • Demonstrate competence in knowledge and understanding of principles in theory and practice of the most common separation techniques. • Get basic knowledge underlying the current electrochemical analytical methods and their instrumentation. • Gain information about goals of GC, HPLC and capillary electrophoresis. • Know how to select and develop the method of choice to achieve a successful run. • Know the applications of separation techniques in pharmacy.
0900703	Spectroscopy	Lectures: 3 hrs /week Total: 3 hrs/week • Demonstrate theoretical knowledge and have practical skill of the most common instrumental analytical methods • Identify appropriate instrumental methods for certain chemical analysis. • Effectively communicate results of scientific inquiries orally and in writing • Design experiment, implement analysis using the relevant chemical literature, process and analyze the data and, effectively, communicate results orally and in writing • Cultivate a professional attitude and develop skills relative to communication, team work, time management and responsibility for individual learning.
0900706	Statistics and biostatistics	Lectures: 2 hrs /week Total: 2 hrs/week • Demonstrate competence in knowledge and understanding of principles in theory and practice of most common statistical and biostatistical methods of analysis. • Identify appropriate statistical methods for certain condition. • Effectively interpret results of scientific

		inquiries using statistical and biostatistical methods for data treatment in order to produce a complete piece of information. • provide the skills required for self-management and autonomy in the planning, organization and conduct of an independent research project • Apply analytical and critical thinking in reviewing literature. • Exhibit professionalism and the highest ethical standards.