**Department: Clinical Laboratory Sciences**

**Course number: CLS 441**

**Course title: Immunohaematology**

**Credit hours: 2 + 2 =4**

***Course description***

The subject develops skills and knowledge required for proficiency in the safe supply of human blood products. A review of antibody antigen interaction will lead into the practical application of antibody screening, identification and compatibility testing. Quality assurance and safety of the blood supply will be covered. Case study presentation will lead the student through problem solving incompatible reactions, situations they will likely encounter in a working laboratory. Advanced techniques and current developments in stem cell transplants and cord blood banking will also be discussed.

***Learning Objectives:***

1. develop an understanding of the requirements of a safe blood supply;

2. become proficient in various techniques in antibody screening and identification;

3. become knowledgeable in techniques of compatibility testing and be able to problem solve incompatible reactions;

4. examine advanced applications;

5. achieve a level of proficiency required for employment in a medical laboratory.

***CLS 441 Laboratory Schedule***

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| **Week #** | **Subject** |
| **1** | ABO Grouping, Rh Typing |
| **2** | Compatibility Testing, Investigation of Transfusion Reactions |
| **3** | Antiglobulin Test Antibody Identification |
| **4** | Antibody Titration Hemolysin Test |
| **5** | Cold Agglutinin Studies Hemolytic Disease of Newborn—Exchange Transfusion |
| **6** | Reconstitution of red cells with Y-Set..Landsteiner Heat Eluate |
| **7** | Donor Blood ProcessingRapid Plasma Reagin Test |
| **8** | Leukocyte Poor Red Cells |
| **9** | Washed Red Cells |
| **10** | - Preparation of Platelet Concentrates |
| **11** | Preparation of Fresh Frozen Plasma |
| **12** | Preparation of Cryoprecipitate |
| **13** | Preparation of Reagents |
| **14** | Quality Control |
| **15** | Assessments |

***References***

* **Essentials of Blood Banking**, A Handbook for students of Blood Banking and Clinical Residents. SR Mehdi, Jaypee Brothers Medical Publishers (P) LTD … ISBN 81-8061-642-8.
* **Textbook of Blood Banking and Transfusion Medicine**. Sally V. Rudmann…..ISBN 0-7216-3453-2
* **Basic Medical Laboratory Techniques** , 4th edition by Barbara H. Estridge, Anna P. Reynolds and Norma J. Walters,……ISBN: 0-7668-1206-5