**BTN415- Data Communications Programming**

**Lab #3**

**Title:** Mail Transfer using C++ – SMTP

**Objective:** The objective of this lab is to write an SMTP client application in C++.

1. **Study the SMTP protocol and how it works.**  
   Research the basic structure and functionality of the SMTP protocol.
2. **Download the sample C++ program provided with this lab.**  
   The sample program demonstrates basic SMTP communication for sending an email through an SMTP server using a socket connection.
3. **Extend the program to attach a file to the email.**
   * Modify the program to include functionality for attaching a file to the email.
   * Ensure you use MIME encoding to handle attachments properly.
   * Include comments in your code to explain each step.
4. **Extend the program to send emails to multiple recipients (e.g., CC or BCC).**
   * Add support for sending emails to multiple recipients by handling CC and BCC fields appropriately in the SMTP headers.
5. **Demonstrate the program in the lab and submit on the designated platform (e.g., Blackboard).**
   * Upload all required files, including source code, executable file, and test data.
6. **Create a user manual document.**
   * Write a detailed **user manual** explaining how to set up and run your SMTP client application.
   * Include step-by-step instructions with screenshots demonstrating the functionality, such as sending an email, attaching a file, and including CC/BCC recipients.