Randomness. **Simulation, bootstrap statistical methods, and permutation tests:** Random numbers, The bootstrap methods, permutation tests, Generating discrete and continuous random variables.

Instructional Strategies:

- The medium of instruction is English
- Lecture materials: recommended books, ppt files, and documents
- Discuss experimental results to learn analyzing techniques (using lab results)

Prerequisite: STAT 1103

References:

1. Sheldon M. Ross, Introduction to Probability and Statistics for Engineers and Scientists, Elsevier/Academic Press, 4th Ed.
2. Douglas C. Montgomery and George C. Runger, Applied Statistics and Probability for Engineers, John Wiley and Son, 4th Ed.

Course No.	Course Title	No. of Credits	Credit Hours
GE 1212	**Bangladesh Studies**	**Theory: 3**	**15 × (3×1) = 45**

Introduction of the Course:

This course will explain the History and Society of Bangladesh. It will cover the Government and Politics, Geography and Resources of Bangladesh, Social Structure of Bangladesh, Culture of Bangladesh, Economy of Bangladesh, Achievements in different sectors of Bangladesh, and Socio-economic problems and prospects of Bangladesh. It is expected that, by the end of this course, students will be able to understand Bangladeshi history, society, culture, overall economics and others.

Specific Objectives:

- To understand the History and Society of Bangladesh
- To understand the Government and Politics, Geography and Resources of Bangladesh, Social Structure of Bangladesh, Culture of Bangladesh, Economy of Bangladesh
- To understand the Achievements in different sectors of Bangladesh, and Socio-economic problems and prospects of Bangladesh

Course Contents: History and Society of Bengal under the British rule and Pakistan rule: The impact of British and Pakistan rules on the economy and education of the people. Language Movement of 1952, Events Leading to the Mass Upsurge of 1969, War of Independence and the Emergence of Bangladesh in 1971, **Government and Politics:** Three branches of government-executive, legislative and judiciary, Formation and role of major political parties in Bangladesh and Constitutional development of Bangladesh, **Study of Geography and Resources of Bangladesh:** Location, Area, Boundary, Ecological Settings, River System, Climate, People and Resources of Bangladesh, **Social Structure of Bangladesh:** Rural society, Urban society, Family, household, and kinship, Women's role in society **Culture of Bangladesh:** Language, Literature, Art and Culture of Bangladesh, **Economy of Bangladesh:** Major Economic Sectors, potentials of various sectors and their prospective challenges; foreign aid and development, role of donor agencies, role of NGOs, **Achievements in different sectors of Bangladesh:** Economy, Culture, Sports, etc., **Socio-economic problems and prospects of Bangladesh:** poverty, health issues, natural disaster, social stratification and gender discrimination.

Instructional Strategies:

- The medium of instruction is English
- Lecture materials: recommended books, ppt files, and documents
- Discuss experimental results to learn analyzing techniques (using lab results)

Prerequisite: N/A

References:

1. Islam, S. (2003). Banglapedia. National Encyclopedia, Asiatic Society of Bangladesh, Dhaka
2. Kibria, S. A. (1999). *Bangladesh at the Crossroads*. University Press Ltd.
3. Riaz, A. (2016). Bangladesh: A Political History since Independence. London: IB Taurus.

Course No.	Course Title	No. of Credits	Credit Hours
SE 1206	**Object Oriented Concepts**	**Theory: 3**	**15 × (3×1) = 45**

Introduction of the Course:

This course will explain the basic topics of object oriented concepts. The course will guide the students to design a problem and code them using Object Oriented (OO) Concepts. It is expected that, by the end of this course, students will be able to model different practical scenarios using the object oriented paradigm. Students will learn and implement concepts, functionalities and interaction of objects and classes using different programming languages, which will strictly follow Object Orientation.