Ambedkar University Delhi

Course Outline

Monsoon Semester (Jan-May 2019)

School: Undergraduate Studies

Programme with title: BA (Honours)

Semester to which offered: VI semester

Course Title: Linear Optimisation Techniques

Credits: 4 Credits

Course Code (new): SUS1MA511

Course Code (old): M15

Type of Course: Elective   No   Cohort   BA (H) Mathematics

                     Elective   yes   Cohort BA (H) other than Mathematics

For SUS only (Mark an X for as many as appropriate):

1.   Foundation (Compulsory)
2.   Foundation (Elective)
3.   Discipline (Compulsory)   X
4.   Discipline (Elective)
5.   Elective   X

Course Coordinator and Team: Dr. Pranay Goswami (cc)

Email of course coordinator: **pranay@aud.ac.in**

Pre-requisites: Mathematics of the 12th level

Aim: The topics included will enhance quantitative and analytical skills. The topics for the course have been chosen keeping in mind the requirements for quantitative skills in social sciences and humanities. Apart from lectures and tutorials, there will also be Excel lab work as and when required and appropriate for the course.

This course aims to introduce the use of linear optimisation methods and techniques for effective decisions–making involving mathematical model formulation and applications that are used in making decisions related to business.

MAIN MODULES:

6. **Introduction to LPP**
7. **Theory of Simplex Method and Duality**
8. **Transportation problem**
9. **Assignment Problem**
10. **Game Theory**
11. **Lab using WINQSB**

Assessments:

Components	Weightage	Schedule
1. Class Test	10%	Second week of February
2. Mid Semester Test	25%	As per AUD timetable
3. Presentation	10%	First week of April
4. End Semester Test	35%	As per AUD timetable
5. Tutorial /lab Assessment	20%	Throughout the semester

Course Team: Pranay Goswami

Main References

1. **Bazaraa M S, Jarvis J J and Sherali H D (2010). Linear Programming and Network Flows , 4th Edition, John Wiley and Sons**
2. **Sharma J K (2009). Operations Research: Theory and Applications, 4th Edition, Macmillan Publishers India Ltd.**
3. **Chang Y L and Desai K (2003). WinQSB Version 2.0, John Wiley and Sons**