Course Type	Course Code	Name of Course	L	T	P	Credit
DE	NYCD511	Advanced Methods in Organic Synthesis	3	0	0	3

Course Objective
● Knowledge on various organic reactions in organic synthesis. ● Acquire advanced synthetic tools applied in organic synthesis. ● Chasing the synthesis of complex molecular architecture by means of developing new synthetic methods.
Learning Outcomes
● Gather the information about various modern synthetic methods. ● Conceptualize various synthetic methods for organic synthesis. ● Update to current trends of organic research

Unit No.	Topics to be Covered	Lecture Hours	Learning Outcome
1	Olefin Metathesis Reaction; Photoredox Catalysis; Metal-Free Iodinane Catalysis; C-H activation; Cross-Dehydrogenative Coupling (CDC); Counter ion Directed Catalysis;	21L	This part will focus on the development of new synthetic methods for catalysis and their application in different areas of chemistry.
2	Remote Functionalization; Electrochemical Reaction; "On water" Reaction; Chiral Amine Catalysis; Memory of chirality; Relay Catalysis; Concept of Dual Catalysis; Ball-Milling Reaction; Frustrated Lewis pair (FLP) chemistry.	21L	This part deals with the current trends of synthetic organic chemistry and their strategic application to access complex molecules.
TOTAL		**42**	

Text Books:

1. Advanced Organic Chemistry, J. March, 4th Edition, JohnWileyand Sons, 1992.
2. Organic Chemistry J.Clayden N. Greeves, and S. Warren 2nd Edition, Oxford university press, 2012.

Reference Books:

1. Visible Light Photocatalysis in Organic Chemistry, Edited by Corey R. J. Stephenson, Tehshik P. Yoon, and David W. C. MacMillan, 1st Edition, © 2018 Wiley-VCH Verlag GmbH & Co. ISBN: 978-3-527-33560-2.
2. Hypervalent Iodine Chemistry: Preparation, Structure and Synthetic Applications of Polyvalent Iodine Compounds; Viktor V. Zhdankin; © 2014 John Wiley & Sons, ISBN: 9781118341032.
3. From C-H to C-C Bonds: Cross-Dehydrogenative-Coupling, Chao-Jun Li; © 2015 The Royal Society of Chemistry; ISBN: 978-1-84973-797-5.
4. Chiral Amine Synthesis: Methods, Developments and Applications; edited by Thomas C. Nugent; © 2010 Wiley-VCH Verlag GmbH & Co. ISBN: 978-3-527-32509-2.