**SHIV NADAR UNIVERSITY**

**PG LEVEL COURSE**

1. **COURSE TITLE: Synthetic Organic Chemistry**
2. **COURSE CODE: CHY502**
3. **COURSE CREDITS (L:T:P): 3** (3 L: 0T: 0P)
4. **TOTAL CONTACT HOURS/ WEEK (L:T:P): 3 L:0T:0P**
5. **COURSE TYPE: PG**
6. **PREREQUISITE/S (IF ANY): none**
7. **COURSE COORDINATOR(S)/INSTRUCTOR(S): Subhabrata Sen**
8. **SCHOOL/ DEPARTMENT: Chemistry**
9. **DISCIPLINES TO WHICH THE**

**COURSE MAY BE OF INTEREST: PhD students of Chemistry**

1. **COURSE CONTENT:**
   1. **Organic Synthesis and Structure**
      1. Mechanism,
      2. Applicability and limitations of the major reactions in organic synthesis.
      3. Stereochemical control in synthesis.
   2. **New Synthetic Reactions and Catalysts**
      1. Recent highlights of new synthetic reactions and catalysts for efficient organic synthesis.
      2. Mechanistic details as well as future possibilities will be discussed.
   3. **Tactics of Organic Synthesis**
      1. A dissection of the most important syntheses of complex natural and unnatural products.
      2. Synthesis, planning and methodology.
      3. The logic of synthesis.
      4. Biogenesis.

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1. **RECOMMENDED BOOK(S):**

# March's Advanced Organic Chemistry: Reactions, Mechanisms, and Structure [Hardcover] by [Michael B. Smith](http://www.amazon.com/s/ref=ntt_athr_dp_sr_1?_encoding=UTF8&field-author=Michael%20B.%20Smith&search-alias=books&sort=relevancerank), ISBN-13: 978-0470462591

# The Logic of Chemical Synthesis [Paperback] by [E. J. Corey](http://www.amazon.com/E.-J.-Corey/e/B001HCW2I8/ref=ntt_athr_dp_pel_1),  [Xue-Min Cheng](http://www.amazon.com/s/ref=ntt_athr_dp_sr_2?_encoding=UTF8&field-author=Xue-Min%20Cheng&search-alias=books&sort=relevancerank), ISBN-13: 978-0471115946

# [Strategic Applications of Named Reactions in Organic Synthesis](http://www.amazon.com/Strategic-Applications-Reactions-Organic-Synthesis/dp/0124297854/ref=sr_1_1?ie=UTF8&qid=1378715176&sr=8-1&keywords=Laszlo+Kurti) by Laszlo Kurti and Barbara Czako, ISBN-13: 978-0124297852

# Molecules and Medicine [Paperback] by [E. J. Corey](http://www.amazon.com/E.-J.-Corey/e/B001HCW2I8/ref=ntt_athr_dp_pel_1), [László Kürti](http://www.amazon.com/L%C3%A1szl%C3%B3-K%C3%BCrti/e/B001I9OZYY/ref=ntt_athr_dp_pel_2), [Barbara Czakó](http://www.amazon.com/s/ref=ntt_athr_dp_sr_3?_encoding=UTF8&field-author=Barbara%20Czak%C3%B3&search-alias=books&sort=relevancerank), ISBN-13: 978-0470227497

# Various journal articles

1. **ASSESSMENT SCHEME:**

1 Assignment: 20%.

1 Mid-term examination: 40%

1 Final examination (Take home): 40%