COURSE DETAIL

ADVANCED QUANTUM CHEMISTRY
Country Denmark
Host Institution University of Copenhagen
Program(s) University of Copenhagen
UCEAP Course Level Upper Division
UCEAP Subject Area(s) Chemistry
UCEAP Course Number 130
UCEAP Course Suffix
UCEAP Official Title ADVANCED QUANTUM CHEMISTRY
UCEAP Transcript Title ADV QUANTUM CHEM
UCEAP Quarter Units 6.00
UCEAP Semester Units 4.00

Course Description

This course provides an understanding of the quantum chemical description of many-electron systems like atoms and molecules. Topics include general angular momentum theory; time-independent perturbation theory and variation theory; Born-Oppenheimer approximation and molecular potential energy surfaces; general operator properties and the antisymmetrizer of the permutation group; many-electron theory; Hartree-Fock-Roothaan theory for self-consistent treatment of molecular electronic states; methods for describing electron correlation; and molecular interaction with external electric fields by means of perturbation theory.

Language(s) of Instruction
English

Host Institution Course Number
NKEA05037U

Host Institution Course Title
ADVANCED QUANTUM CHEMISTRY (KEMIVK)

Host Institution Course Details
https://kurser.ku.dk/course/nkea05037u/2021-2022

Host Institution Campus

Host Institution Faculty
Faculty of Science

Host Institution Degree
Bachelor

Host Institution Department
Department of Chemistry

Course Last Reviewed
2021-2022

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