

SYLLABUS

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| Classification | Elective | Course No. | 22601 | Cr. Hrs. | 3 | Instructor | Byeong Ha Lee |
| Course Title | Korean | 전자기학 | | | | | |
| | English | Electromagnetics | | | | | |
| <u>Course Outline</u> Electrostatics in dielectric media, currents and magnetic fields, Maxwell's equations. Propagation of electromagnetic wave through dsipersive media, Scattering and Radiation | | | | | | | |
| Prerequisite | | | | | | | |
| Textbook and References | | Foundation of electromagnetic theory, 4'th edition, J. R. Reitz, F. J. Milford, R. W. Christy Enginering electromagnetics, 5'th edition, W. H. Hayt, Jr. | | | | | |
| Weekly Course Schedule | | | | | | | |
| Calendar | Description | | | | | | Remarks |
| 1st week | Introduction to Electrostatics | | | | | | |
| 2nd week | Electro static energy and potential | | | | | | |
| 3rd week | Electrsostatic field in dielectric and conducting media | | | | | | |
| 4th week | Solution of elctrostatic problems | | | | | | |
| 5th week | Experimental mapping methods | | | | | | |
| 6th week | Magnetic fields of steady currents | | | | | | |
| 7th week | Magnetic energy, force, and inductance | | | | | | |
| 8th week | Midterm Exam | | | | | | |
| 9th week | Time varying fields and Maxwell's equations | | | | | | |
| 10th week | Propagation of monochromatic plane electromagnetic wave | | | | | | |
| 11th week | Monochromatic plane waves in bounded regions | | | | | | |
| 12th week | Spherical electromagnetic waves | | | | | | |
| 13th week | Dispersion and Oscillating fields in dispersive media | | | | | | * |
| 14th week | The emission of radiation | | | | | | * |
| 15th week | Transmission line | | | | | | * |
| 16th week | Final Exam | | | | | | * |

* If there will be experiments, mark it in the "Remarks".

Coordinator Byeong Ha Lee
Photonics School, Director Do-Kyeong Ko



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| Classification | Elective | Course No. | 22602 | Cr. Hrs. | 3 | Instructor | Do-Kyeong Ko |
| Course Title | Korean | 초고속 광학 | | | | | |
| | English | ultrafast optics | | | | | |
| Course Outline Theory and general properties of ultrashort laser pulses, dispersion, spatio-temporal characteristics of the light, measurement techniques of the ultrashort pulses, ultrafast laser spectroscopy, stretching, amplification, and the compression of the ultrashort pulses will be described and emphasized in the course. | | | | | | | |
| Prerequisite | | Optics and Laser | | | | | |
| Textbook and References | | <ul style="list-style-type: none">■ Femtosecond Laser Pulses (by Claude Rulliere, Springer, 1998)■ Ultrashort Laser Pulse Phenomena (by Jean-Claude Diels & Wolfgang Rudolph, Academic Press Inc., 1996)■ Frequency-Resolved Optical Grating: The Measurement of Ultrashort Laser Pulses (by Rick Trebino, Kluwer Academic Publishers, 2002) | | | | | |
| Weekly Course Schedule | | | | | | | |
| Calendar | Description | | | | | Remarks | |
| 1st week | Introduction to Ultrafast Optics | | | | | | |
| 2nd week | The Generation of Ultrashort Laser Pulses | | | | | | |
| 3rd week | Ultrashort Laser Pulses I | | | | | | |
| 4th week | Ultrashort Laser Pulses II | | | | | | |
| 5th week | Dispersion of Ultrashort Pulses | | | | | | |
| 6th week | Spatio-Temporal Characteristics of Light and Light and How to Model Them | | | | | | |
| 7th week | Nonlinear Optics | | | | | | |
| 8th week | Midterm Examination | | | | | | |
| 9th week | Ultrafast Laser Spectroscopy | | | | | | |
| 10th week | Coherent and Incoherent Control | | | | | | |
| 11th week | Theory of Ultrashort Laser Pulse Generation | | | | | | |
| 12th week | The Amplification of Ultrashort Laser Pulses | | | | | | |
| 13th week | Focusing Ultrashort Pulses | | | | | | |
| 14th week | Measuring Ultrashort Laser Pulses | | | | | | |
| 15th week | Ultrafast Optics Lab Tour | | | | | | |
| 16th week | Final Examination | | | | | | |

* If there will be experiments, describe them in the "Remarks".

Coordinator Do-Kyeong Ko
 Photonics School, Director Do-Kyeong Ko



Optical Communication Systems 22603

광통신 시스템

Instructor: Chang-Soo Park, Rm C501

Course Contents:

- Optical comm. system and network overview
- Optical fibers
- Optical transmitters
- Optical receivers
- Optical amplifiers
- Signal multiplexing and demultiplexing
- System design and performance

Text: Govind P. Agrawal, Fiber-Optic Communication Systems.

Supplemental References: R. Hoss, Fiber Optical Communications (design Book); J. palais, Fiber Optic Communications.

Course Requirements / Grading Policy

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|----------|-----------|
| Homework | 10% -> 20 |
| Test | 30% -> 40 |
| Projects | 30% |
| Final | 30% -> 40 |

All tests will be in class.

Prerequisites: If any, Optics, Communication Theory, Semiconductor Physics, Waveguide Theory

Instructor Chang-Soo Park
Photonics School, Director Do-Kyeong Ko



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| Classification | Selective | Course No. | 22605 | Cr. Hrs. | 3:0:3 | Instructor | Young-Dahl Jho |
| Course Title | Korean | 양자 역학 | | | | | |
| | English | Quantum Physics for Engineering | | | | | |
| Course Outline (국문) 소자 물리나 광공학 소자 등의 연구에 필요한 양자 역학과 고체 물리의 기본적인 토대를 제공하는 과목입니다. 다룰 문제들은 다음을 포함합니다: Schrodinger 파동식; 반도체에서 에너지 준위; 이성질 구조에서 크로니그-페니 모델; 터널링 효과; 반도체에서 불순물과 엑시톤; 반도체에서 스핀-궤도 상호작용; 정상 상태에 대한 근사 방법; 시간에 의존하는 문제에 대한 근사 방법과 광학적 전이; 입자의 산란; 강자성과 자기 기록; NMR과 자기 공명 영상; 반도체 레이저; 나노 광공학 소개 (영문) This course provides the background in quantum mechanics and solid state physics necessary for further studies in device physics and photonics devices. Examples include: electronic energy levels in semiconductor transistors; the Kronig-Penney model for heterostructures; tunneling phenomena in semiconductor devices; impurities and excitons in semiconductors; effects of spin-orbit interactions in semiconductors; time-dependent perturbation theory and optical transitions; carrier scattering processes; ferromagnetism and magnetic recording; nuclear magnetic resonance and magnetic resonance imaging; semiconductor lasers; and introduction to nanophotonics. | | | | | | | |
| Prerequisite | 전자기학 (Electricity and Magnetism) 고급 수학 (Advanced Calculus) | | | | | | |
| Textbook and References | Textbook: Quantum Mechanics: Fundamentals & Applications to Technology by J. Singh (John Wiley & Sons, 1999). USEFUL REFERENCES: Modern Quantum Mechanics by J. J. Sakurai (Addison-Wesley, 1994). The Meaning of Quantum Theory by J. Baggott (Oxford University Press, 1992). Electrical Properties of Materials, Sixth Edition by L. Solymar and D. Walsh (Oxford University Press, 1998). Introduction to the Electronic Properties of Materials by D. Jiles (Chapman & Hall, 1994). Electrons in Solids by R. H. Bube (Academic Press, 1992). Introduction to Solid State Physics, 7th Edition by C. Kittel (John Wiley & Sons, 1996). Solid State Physics by N. W. Ashcroft and N. D. Mermin (Holt, Rinehart and Winston, 1976). Future Trends in Microelectronics: The Road Ahead edited by S. Luryi, J. Xu and A. Zaslavsky (John Wiley & Sons, 1999). Quantum Mechanics: For Engineering, Materials Science and Applied Physics by H. Kroemer (Prentice Hall, 1994). Physics of Semiconductors and Their Heterostructures by J. Singh (McGraw-Hill, 1993). An Introduction to Theory and Applications of Quantum Mechanics by A. Yariv (John Wiley & Sons, 1982). | | | | | | |
| Weekly Course Schedule | | | | | | | |
| Calendar | Description | | | | | Remarks | |
| 1st week | Review of classical mechanics | | | | | | |
| 2nd week | Mathematical formulation of quantum mechanics | | | | | | |
| 3rd week | Atoms, molecules, and lattice | | | | | | |
| 4th week | Particles in simple potentials | | | | | | |
| 5th week | Tunneling problem | | | | | | |
| 6th week | Particles in spherically symmetric potentials | | | | | | |
| 7th week | Operators, symmetry and conservation | | | | | | |
| 8th week | Mid-term exam | | | | | | |
| 9th week | Identical particles and 2nd quantization | | | | | | |
| 10th week | Approximation: time-independent problems | | | | | | |
| 11th week | Approximation: time-dependent problems | | | | | | |
| 12th week | Collision and scatterings | | | | | | |
| 13th week | Magnetic effects | | | | | | |
| 14th week | Overview of semiconductor laser and optics | | | | | | |
| 15th week | Introduction to nanophotonics. | | | | | | |
| 16th week | Final exam | | | | | | |

* If there will be experiments, mark it in the "Remarks".

Coordinator Young-Dahl Jho (seal)

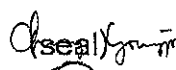

Photonics School, Director Do-Kyeong Ko



SYLLABUS

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| Classification | Elective | Course No. | 22606 | Cr. Hrs. | 3 | Instructor | Youngjoo Chung |
| Course Title | Korean | 광학과 레이저 | | | | | |
| | English | Optics and Lasers | | | | | |
| Course Outline Review of electromagnetic theory, light propagation, geometrical optics, polarization, interference, wave optics, coherence, light amplification, characteristics of lasers, Q-switching, passive and active mode-locking | | | | | | | |
| Prerequisite | | Electromagnetics | | | | | |
| Textbook and References | | Textbook: Pedrotti & Pedrotti, <i>Introduction to Optics</i> , 2nd ed. | | | | | |
| | | References: | | | | | |
| | | Born and Wolf, <i>Principles of Optics</i> , 7th ed. | | | | | |
| | | E. Hecht, <i>Optics</i> | | | | | |
| | | A. Yariv & P. Yeh, <i>Optical Waves in Crystals</i> | | | | | |
| | | A. E. Siegman, <i>Lasers</i> | | | | | |
| Weekly Course Schedule | | | | | | | |
| Calendar | Description | | | | | Remarks | |
| 1st week | Historical review and background | | | | | | |
| 2nd week | Geometrical optics | | | | | | |
| 3rd week | Matrix methods in paraxial optics | | | | | | |
| 4th week | Optical instrumentation | | | | | | |
| 5th week | Wave optics and superposition of waves | | | | | | |
| 6th week | Interference of light | | | | | | |
| 7th week | Coherence and holography, <i>Mid-term</i> | | | | | | |
| 8th week | Polarization | | | | | | |
| 9th week | Diffraction theory | | | | | | |
| 10th week | Theory of multilayer films | | | | | | |
| 11th week | Light amplification and basic of lasers | | | | | | |
| 12th week | Characteristics of lasers | | | | | | |
| 13th week | Fiber optics and Fourier optics | | | | | | |
| 14th week | Nonlinear optics | | | | | | |
| 15th week | Dead week | | | | | | |
| 16th week | <i>Final Exam</i> | | | | | | |

* If there will be experiments, mark it in the "Remarks".

Instructor Youngjoo Chung 
 Photonics School, Director Do-Kyeong Ko 

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| Classification | Elective | Course No. | 22603 | Cr. Hrs. | 3:0:3 | Instructor | Dug Young Kim |
| Course Title | Korean | 비선형 광학 | | | | | |
| | English | Nonlinear Optics | | | | | |
| <u>Course Outline</u> : Basic concepts of Nonlinear optics and their mathematical expressions will be covered. Applications such as second harmonic generation, electro optic modulators, all-optical switches and solitons will be included as well. | | | | | | | |
| Prerequisite | | Nonlinear Optics E.G. Sauter Nonlinear Optics A.C. Newell, J.V. Moloney | | | | | |
| Textbook and References | | The Principles of Nonlinear Optics - Y.R. Shen | | | | | |
| Weekly Course Schedule | | | | | | | |
| Calendar | Description | | | | | Remarks | |
| 1st week | Introduction | | | | | | |
| 2nd week | Wave equation and refractive index | | | | | | |
| 3rd week | Coupled mode equations | | | | | | |
| 4th week | Anharmonic Oscillator model | | | | | | |
| 5th week | Second harmonic generation | | | | | | |
| 6th week | Optical crystals and susceptibility tensors | | | | | | |
| 7th week | Parametric amplication | | | | | | |
| 8th week | Electro optic modulator | | | | | | |
| 9th week | Third harmonic generation | | | | | | |
| 10th week | Optical Kerr effect and Self-Phase modulation | | | | | | |
| 11th week | Cascaded effects | | | | | | |
| 12th week | Four-wave mixing | | | | | | |
| 13th week | All-Optical switching devices | | | | | | |
| 14th week | Stimulated Raman/Brillioun scattering | | | | | | |
| 15th week | Nonlinear schrodinger equation | | | | | | |
| 16th week | Solitons | | | | | | |

* If there will be experiments, mark it in the "Remarks".

Homework 30%

Pop Quiz 20%

Mid Test 20%

Final Test 30%

Coordinator Dug Young Kim

Photonics school, director Do-Kyeong Ko



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| Classification | Elective | Course No. | 22614 | Cr. Hrs. | 3 | Instructor | Yong-Tak Lee |
| Course Title | Korean | 반도체 레이저 | | | | | |
| | English | Semiconductor Lasers | | | | | |
| Course Outline To study principles of semiconductor laser operation, heterostructure materials, fabrication processes, structure design for specific application, modulation characteristics, in addition, recent topics on Quantum Well Lasers, Surface Emitting Lasers, Semiconductor, Laser Amplifiers, etc. are studied. | | | | | | | |
| Prerequisite | | Optoelectronics | | | | | |
| Textbook and References | | Semiconductor Lasers 2nd Ed. G. P. Agrawal Van Nostrand Reinhold, 1993 Semiconductor Lasers, Past, Present and Future, G. P. Agrawal AIP Press 1995 Quantum Well Lasers, Peter S. Zony, Jr. | | | | | |
| Weekly Course Schedule | | | | | | | |
| Calendar | Description | | | | | | Remarks |
| 1st week | Principles of injection Laser Operation | | | | | | |
| 2nd week | Wave Propagation in waveguide | | | | | | |
| 3rd week | Modes in Lasers Structure | | | | | | |
| 4th week | Stimulated Emission | | | | | | |
| 5th week | Optical Gain | | | | | | |
| 6th week | Heterostructure Materials | | | | | | |
| 7th week | Epitaxy of Heterostructure | | | | | | |
| 8th week | Laser Structure and Fabrication Process | | | | | | |
| 9th week | Mid Term Exam | | | | | | |
| 10th week | Quantum Well Lasers | | | | | | |
| 11th week | Single Mode DFB & DBR Lasers | | | | | | |
| 12th week | Modulation Characteristics | | | | | | |
| 13th week | Surface Emitting Lasers | | | | | | |
| 14th week | Semiconductor Amplifiers | | | | | | |
| 15th week | Semiconductor Amplifiers | | | | | | |
| 16th week | Final Exam | | | | | | |

* If there will be experiments, mark it in the "Remarks".

Instructor Yong-Tak Lee (seal)

Photonics school, director Do-Kyeong Ko (seal)



SYLLABUS

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| Classification | Elective | Course No. | 22621 | Cr. Hrs. | 3 | Instructor | Noh, Do Young |
| Course Title | Korean | 고체물리 | | | | | |
| | English | Solid State Physics | | | | | |
| <u>Course Outline</u> In this course, basic physical concepts in understanding solids, crystals and electrons in crystals, will be discussed at introductory level. After studying the concepts of crystal structures and the reciprocal lattice, we will study the thermal vibrations and properties of phonon, electronic energy band structure, basic concepts of semiconductor crystal and metal crystals. Advanced topics such as magnetism and superconductivity will be covered at the end of the semester. Recommended to graduate students in physics and materials science. | | | | | | | |
| Prerequisite | | | | | | | |
| Textbook and References | | Introduction to Solid State Physics, by Kittel (Text) | | | | | |
| Weekly Course Schedule | | | | | | | |
| Calendar | Description | | | | | *Remarks | |
| 1st week | Crystal Structure | | | | | | |
| 2nd week | Crystal Structure / Reciprocal Lattice | | | | | | |
| 3rd week | X-ray Diffraction | | | | | | |
| 4th week | Crystal Binding | | | | | | |
| 5th week | Lattice Vibrations | | | | | | |
| 6th week | Phonon | | | | | | |
| 7th week | Free Electron Gas | | | | | | |
| 8th week | Free Electron Gas / Energy Band | | | | | Midterm Exam | |
| 9th week | Energy Band | | | | | | |
| 10th week | Semiconductor Crystals | | | | | | |
| 11th week | Semiconductor Crystals | | | | | | |
| 12th week | Fermi Surface and Metals | | | | | | |
| 13th week | Magnetism | | | | | | |
| 14th week | Magnetism | | | | | | |
| 15th week | Dielectric properties and Ferroelectricity | | | | | | |
| 16th week | Superconductivity | | | | | Final Exam | |

* If there will be experiments, mark it in the "Remarks".

Instructor Noh Do young (seat)
 Photonics School, Director Do-Kyeong Ko (seat)



SYLLABUS

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| Classification | Elective | Course No. | 27627 | Cr. Hrs. | 3 | Instructor | Hyyong Suk |
| Course Title | Korean | 고급 전자기학 | | | | | |
| | English | Advanced Electromagnetics | | | | | |
| <u>Course Outline</u> This is an dvanced electromagnetics course that covers basic Maxwell's equations and their applications, especially for electromagnetic waves and coherent radiations. | | | | | | | |
| Prerequisite | | electromagnetics | | | | | |
| Textbook and References | | Classical Electrodynamics by J.D. Jackson and some other materials | | | | | |
| Weekly Course Schedule | | | | | | | |
| Calendar | Description | | | | | Remarks | |
| 1st week | Maxwell's equations | | | | | | |
| 2nd week | electromagnetic waves and wave propagation | | | | | | |
| 3rd week | " | | | | | | |
| 4th week | waveguides, resonant cavities; optical fibers | | | | | | |
| 5th week | " | | | | | | |
| 6th week | radiating systems | | | | | | |
| 7th week | special theory of relativity | | | | | | |
| 8th week | mid-term exam | | | | | | |
| 9th week | radiation by moving charges | | | | | | |
| 10th week | " | | | | | | |
| 11th week | special topics : free electron laser | | | | | | |
| 12th week | " | | | | | | |
| 13th week | special topics : microwave source | | | | | | |
| 14th week | special topics : " | | | | | | |
| 15th week | final-term exam | | | | | | |
| 16th week | | | | | | | |

* If there will be experiments, mark it in the "Remarks".

Coordinator **Hyyong Suk**
 Photonics School, Director **Do-Kyeong Ko**



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| Classification | Elective | Course No. | 22628 | Cr. Hrs. | 3 | Instructor | Sangyoun Gee |
| Course Title | Korean | 기하 광학 | | | | | |
| | English | Geometrical Optics | | | | | |
| Course Outline | | | | | | | |
| 1. Basic nature of light | | | | | | | |
| 2. Image formation | | | | | | | |
| 3. Aberration | | | | | | | |
| 4. Optical systems | | | | | | | |
| 5. Optical computation | | | | | | | |
| Prerequisite | | General physic | | | | | |
| Textbook and References | | Modern optical engineering, Warren Smith | | | | | |
| Weekly Course Schedule | | | | | | | |
| Calendar | Description | | | | | Remarks | |
| 1st week | Basic nature of light | | | | | | |
| 2nd week | Image formation | | | | | | |
| 3rd week | Image formation | | | | | | |
| 4th week | Aberration | | | | | | |
| 5th week | Aberration | | | | | | |
| 6th week | Prisms and mirror | | | | | | |
| 7th week | Prisms and mirror | | | | | | |
| 8th week | Mid term | | | | | | |
| 9th week | Stops and Apertures | | | | | | |
| 10th week | Stops and Apertures | | | | | | |
| 11th week | Optical systems | | | | | | |
| 12th week | Optical systems | | | | | | |
| 13th week | Optical computation | | | | | | |
| 14th week | Optical computation | | | | | | |
| 15th week | Optical computation | | | | | | |
| 16th week | Final | | | | | | |

* If there will be experiments, mark it in the "Remarks".

Coordinator Sangyoun Gee (seal) 

Photonics School, Director Do-Kyeong Ko (seal) 

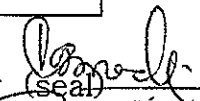
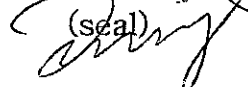
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| Classification | Elective | Course No. | 22634 | Cr. Hrs. | 3 | Instructor | Pramod R. Watekar |
| Course Title | Korean | 광섬유 소자기술 | | | | | |
| | English | Advanced Optical Fiber Devices | | | | | |
| Special topics in Photonics: | | | | | | | |
| <u>Course Outline</u> This course is specifically intended to study the latest commercial and research fiber optics devices. It includes highly negative dispersion fibers to nonlinear parametric amplifiers. More stress will be on the mathematical modeling of these devices rather than mathematical equations. | | | | | | | |
| Prerequisite | Any basic fiber optic course is preferable, although not essential, in that case, student will have to accept some fiber optics end-results on which the course is built | | | | | | |
| Textbook and References | 1. G P Agrawal, Nonlinear Fiber Optics, Academic Press, NY USA, 1995 2. M. E. Marhic, Fiber Optical Parametric Amplifiers, Cambridge University Press, Cambridge UK, 2008. 3. Ghatak and Thyagarajan, Introduction to Optical Fibers, Cambridge University Press, Cambridge UK, 1999. | | | | | | |
| Weekly Course Schedule | | | | | | | |
| Calendar | Description | | | | | Remarks | |
| 1st week | (a) Review of optical fiber properties (b) Bend insensitive optical fibers | | | | | | |
| 2nd week | (a) Extremely high negative dispersion optical fibers (b) High order mode dispersion compensators | | | | | | |
| 3rd week | Generation of solitons in optical fibers | | | | | | |
| 4th week | Wavelength filters: Wide Band, Narrow-band pass filters | | | | | | |
| 5th week | Wide band gain flattening devices | | | | | | |
| 6th week | Polarization controllers | | | | | | |
| 7th week | Current sensors | | | | | | |
| 8th week | Mid-term examination | | | | | | |
| 9th week | Optical limiters using quantum dots in optical fibers | | | | | | |
| 10th week | Parametric wavelength generators, parametric amplifiers and parametric oscillators | | | | | | |
| 11th week | Raman lasers | | | | | | |
| 12th week | Visible and 2000 nm lasers | | | | | | |
| 13th week | Visible laser pumped IR amplifiers: Si quantum dots | | | | | | |
| 14th week | Q-switched lasers | | | | | | |
| 15th week | Super continuum generation | | | | | | |
| 16th week | End term examination | | | | | | |

* If there will be experiments, mark it in the "Remarks".

Coordinator
Photonics School, Director

Pramod R. Watekar
Do-Kyeong Ko


 (seal)

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| Classification | elective | Course No. | 22636 | Cr. Hrs. | 3:0:3 | Instructor | K.A.Janulewicz |
| Course Title | Korean | 파동 광학 | | | | | |
| | English | Wave Optics | | | | | |
| <u>Course Outline</u> The main goal of the course is to deliver students comprehensive and homogeneous theory of wave optics. This kind of optics constitutes physical (experimental and theoretical) foundations of modern optics-oriented technological fields such as photonics, noninvasive diagnostics, computer vision, optical metrology etc. The fundamental physical processes being a basis of these and other applications are analysed in detail under the point of view of their applicability in practice. | | | | | | | |
| Prerequisite | | | | | | | |
| Textbook and References | | M. Born E. Wolf "Principles of Optics", E. Hecht "Optics" (4 th ed.) E. Wolf, L. Mandel "Coherence and Quantum Optics" | | | | | |
| Weekly Course Schedule | | | | | | | |
| Calendar | Description | | | | | Remarks | |
| 1st week | Basic elements of classic description of electromagnetic field | | | | | | |
| 2nd week | Electromagnetic interpretation of selected light phenomena | | | | | | |
| 3rd week | Gaussian beams | | | | | | |
| 4th week | Interference | | | | | | |
| 5th week | Diffraction theory I | | | | | | |
| 6th week | Diffraction theory II | | | | | | |
| 7th week | Scattering of light | | | | | | |
| 8th week | Midterm exam | | | | | | |
| 9th week | Introduction to statistical optics | | | | | | |
| 10th week | Coherence | | | | | | |
| 11th week | Speckle | | | | | | |
| 12th week | Elements of nonlinear optics | | | | | | |
| 13th week | Elements of crystalline optics | | | | | | |
| 14th week | Physical backgrounds of holography | | | | | | |
| 15th week | Approximation of geometrical optics | | | | | | |
| 16th week | Final exam | | | | | | |

* If there will be experiments, mark it in the "Remarks"

Coordinator

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(seal)

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