

Detailed Curriculum SPO 2012 (subject to changes, version of October 15, 2014)

XYZ / XYZ I	Subject / Module	hours/week V: lecture Ü: problems class P: lab	module CP / total CP	Person in Charge / Lecturer
	1. Semester		30	
EngO&P	Engineering Optics and Photonics		8	
EngO&P-EM	Electromagnetics and Numerical Calculation of Fields	V2+Ü1	4	Dössel
EngO&P-OE	Optical Engineering	V2+Ü1	4	Stork
PhysO&P	Physical Optics and Photonics		8	
PhysO&P-FOP	Fundamentals of Optics and Photonics	V4+Ü2	8	Kalt
O&PL	Optics and Photonics Lab*		5 of 10 in total*	Hetterich, Siegle
O&PL I	Optics and Photonics Lab I	P3	5	div.
	* second part of O&PL in 2 nd semester			
AdjC	Adjustment Course* **		6 of 8 in total**	
AdjC-MCS	Measurement and Control Systems	V3+Ü1	6	Stiller
AdjC-MP	Modern Physics	V4+Ü1	6	Pilawa
	* assignment of student to AdjC-MCS or AdjC-MP is made by examination board ** completed in 2 nd semester			
AKC	Additive Key Competencies*		3 of 6 in total*	
AKC-VCC	Visual Communication and Culture		3	Wägenbaur (ZAK)
AKC-JMCS	European Integration and Identity Studies (Jean Monnet Circle Seminar)		3	ZAK
AKC-GLC	German Language Courses		4	Dörner (ID)
AKC-FLC	Foreign Language Class (except mother tongue and English)		1 - 3	SPZ
AKC-GSE	General Studies in English		1 - 3	ZAK
	more courses available from International Department ID, House of Competence HoC, Zentrum für Angewandte Kulturwissenschaften ZAK, and Sprachenzentrum SPZ * completed in 3 rd semester			
	2. Semester		30	
AO&P-TM	Advanced Optics and Photonics – Theory and Materials		8	

AO&P-TM-TO	Theoretical Optics	V2+Ü1	4	Rockstuhl
AO&P-TM-NLO	Nonlinear Optics	V2+Ü1	4	Koos
AO&P-MC	Advanced Optics and Photonics – Methods and Components		10	
AO&P-MC-SM	Spectroscopic Methods	V2	3	Kappes
AO&P-MC-OC	Optoelectronic Components	V2+Ü1	4	Freude
AO&P-MC-MOL	Microoptics and Lithography	V2	3	Mappes
AdjC	Adjustment Course*		2 of 8 in total*	
AdjC-BMCB	Basic Molecular Cell Biology (compulsory)	V1	2	Weth
	* continued from 1 st semester			
O&PL	Optics and Photonics Lab*	P6	5 of 10 in total*	Hetterich, Siegle
O&PL II	Optics and Photonics Lab II	P3	5	div.
	* continued from 1 st semester			
IndInt	Industry Internship*		5 of 12 in total*	Stiller
IndInt I	Industry Internship: Introduction		5	Stiller
	* continued in 3 rd semester			
	3. Semester		30	
Sp-PMD	Specialization - Photonic Materials and Devices*		16 in total*	
Sp-SSO	Solid-State Optics	V4	6	Hetterich
Sp-FPC	Field propagation and coherence	V2+Ü1	4	Freude
Sp-AOM	Advanced Optical Materials	V3+Ü1	6	Wegener, Pernice
Sp-AIM	Advanced Inorganic Materials (only in SS)	V2	3	Feldmann
Sp-PE	Plastic Electronics	V2	3	Lemmer
Sp-SolE	Solar Energy	V3+Ü1	6	Richards
Sp-OWF	Optical Waveguides and Fibers	V2+Ü1	4	Koos
Sp-LP	Laser Physics	V2+Ü1	4	Eichhorn
Sp-XRO	X-Ray Optics	V2	3	Last
Sp-CP	Computational Photonics	V	4	Rockstuhl, Toscano
Sp-RProj	Research Project		4	Kalt
	* elective modules			
Sp-AS	Specialization - Advanced Spectroscopy*		16 in total*	

Sp-MS	Molecular Spectroscopy	V2+Ü1	4	Kappes
Sp-NO	Nano-Optics	V2	6	Naber
Sp-LM	Laser Metrology (only in SS)	V2	3	Eichhorn
Sp-SSO	Solid-State Optics	V4	6	Hetterich
Sp-AIM	Advanced Inorganic Materials (only in SS)	V2	3	Feldmann
Sp-LP	Laser Physics	V2+Ü1	4	Eichhorn
Sp-RProj	Research Project		4	Kalt
	* elective modules			
Sp-BMP	Specialization - Biomedical Photonics*		16 in total*	
Sp-AMCB	Advanced Molecular Cell Biology (compulsory)	V2+Ü1	5	Weth
Sp-EBI	Exploring biomolecular interactions by single-molecule fluorescence	V2	3	Nienhaus
Sp-ITL	Imaging Techniques in Light Microscopy	V2	3	Bastmeyer
Sp-OVB	Optics and Vision in Biology	V3	4	Bastmeyer, Weth
Sp-NO	Nano-Optics	V2	6	Naber
Sp-PC	Photochemistry	V2	3	Wagenknecht
Sp-LP	Laser Physics	V2+Ü1	4	Eichhorn
Sp-RProj	Research Project		4	Kalt
	* elective modules except for Sp-AMCB			
Sp-OS	Specialization - Optical Systems*		16 in total*	
Sp-SSE	Systems and Software Engineering	V2+Ü1	4	Sax
Sp-MV	Machine Vision	V3+P1	6	Lauer
Sp-OTM	Optical Transmitters and Receivers	V2+Ü1	4	Freude
Sp-OWF	Optical Waveguides and Fibers	V2+Ü1	4	Koos
Sp-LDE	Light and Display Engineering	V2+Ü1	4	Kling
Sp-FPC	Field propagation and coherence	V2+Ü1	4	Freude
Sp-PE	Plastic Electronics	V2	3	Lemmer
Sp-LM	Laser Metrology (only in SS)	V2	3	Eichhorn
Sp-LP	Laser Physics	V2+Ü1	4	Eichhorn
Sp-LMP	Laser Materials Processing	block	3	Graf
Sp-RProj	Research Project		4	Kalt
	* elective modules			
Sp-SE	Specialization – Solar Energy*		16 in total*	
Sp-SolE	Solar Energy (compulsory)	V3+Ü1	6	Richards
Sp-PE	Plastic Electronics	V2	3	Lemmer
Sp-EPG	Electric Power Generation and Power Grid	V2	3	Hoferer
Sp-AOM	Advanced Optical Materials	V3+Ü1	6	Wegener, Pernice
Sp-SSO	Solid-State Optics	V4	6	Hetterich
Sp-STES	Solar Thermal Energy Systems	V2	3	Dagan
Sp-LMP	Laser Materials Processing	block	3	Graf
Sp-RProj	Research Project		4	Kalt

	* elective modules except for Sp-SolE			
SemC	Seminar Course (Research Topics in Optics & Photonics)		4	Kalt, Gomard
IndInt	Industry Internship*		7 of 12 in total*	Stiller
IndInt II	Industry Internship: Specialization and Report		7	Stiller
	* continued from 2 nd semester			
AKC	Additive key competencies* **		3 of 6 in total*	
	* continued from 1 st semester			
	** for list of modules see 1 st semester			
	4. Semester		30	
MThes	Master's Thesis		30	KSOP lecturers