E – Charakteristika studijního předmětu/Subject Specification

Název studijního předmětu / Subject title	Digital Image Processing				
Typ předmětu / Subject type	Obligatory elective			**dopor. ročník / semester/ recommended year / semester**	2/4
Rozsah studijního předmětu / Study load in hours and credits		**hod. za týden / weekly load**	2+2	**Kreditů / Credits**	5
Jiný způsob vyjádření rozsahu / Other expression of study load	10 weeks, each 2 hours of lectures and 2 hours of seminary				
Způsob zakončení / Assessment	Exam			**Forma výuky / Form of teaching**	Lectures lab. seminars
Další požadavky na studenta / Other demands on students					

Vyučující / Lecturer

Ing. Lukáš MATELA, Ph.D., Ing. Josef Chaloupka, Ph.D.

Stručná anotace předmětu / Subject annotation

The subject Digital Image Processing is focused in student's ability to build digital image processing system. It should provide informations about lightning, suitable optics, lenses types, possibilities of using and basic computation task to choose proper type of lens. CCD and CMOS sensors will be introduced with targeting the diferences. Various image transfer interfaces between camera and evaluating hardware will be compared according several viewpoints. Specifics of line-scan cameras will be introduced as well as hardware interface.
Students will be able to build individuals digital image processing systems in laboratory lectures using compact vision systems. They will be able to apply various digital image processing methods using pre-arranged software.

Informace ke kombinované nebo distanční formě / Information for students in external form of study		
Rozsah konzultací (soustředění) / Consultations, study meetings	2	**hodin za týden / hours per week**
Rozsah a obsahové zaměření individuálních prací studentů a způsob kontroly / Individual student work – type, load, content and way of checking		

Studijní literatura a studijní pomůcky / Reading list and study utilities

Sonka M., Hlavac V., Boyle R.: Image Processing, Analysis, and Machine Vision
http://www.dvtsensors.com/products/FrameWorkManager.php
http://www.machinevision.com/