COMPUTER INTEGRATED SURGERY (CIS) MINOR
Information and Checklist

Name of Student _____ **Date** _____

JHU Email _____ **Phone** _____

Major(s) _____ **Minor(s)** _____

Expected Graduation Date _____

Course Selection and Minor Requirements

For up-to-date information on CIS Minor requirements, please visit

https://www.lcsr.jhu.edu/Education/Undergraduate/CISminor

How to Declare a Minor in CIS

1. All students interested in the CIS Minor are required to make an appointment to speak with a CIS minor advisor to receive guidance about the program. Please see the above website to obtain a list of CIS minor advisors.
2. Complete two copies of this CIS Minor Checklist and meet periodically (at least once per year) with your minor advisor. After meeting with your advisor, take a signed copy of the checklist to Alison Morrow (200 Hackerman Hall) and keep one for your own records.
3. Complete the Addition/Change of Minor and/or Minor Advisor form in the registrar's office
4. During your senior year, you must also note the CIS Minor on your *Application for Graduation*.
5. When all requirements have been completed (or are in progress), bring two copies of the completed form to the CIS Minor Program Coordinator (Dr. Russell Taylor) for review and signature.

CIS Minor Checklist

I ***Required Fundamental Computer Science Courses***

	Course	Semester completed or will be completed
☐	Intro Programming in Java (601.107) or Gateway Computing: AVA (500.112)	
☐	Data Structures (601.226)	
☐	Equivalent experience determined by your advisor. Please specify course completed:- Course Name:- Course Number:-	

II ***Required Fundamental Mathematics Courses***

	Course	Semester completed or will be completed
☐	Calculus I (110.106 or 110.108)	
☐	Calculus II (110.107 or 110.109)	
☐	Calculus III (110.202 or 110.211)	
☐	Linear Algebra (553.291, 110.201, or 110.211-12)	

Visit the following webpage for up to date course listings http://lcsr.jhu.edu/computer-integrated-surgery-minor/

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III A ***Required Fundamental CIS Courses***

	Course	Semester completed or will be completed
☐	Computer Integrated Surgery I (601.455)	
☐	Computer Integrated Surgery II (601.456)	
	OR	
☐	Design course in BME, ECE, or ME with substantial CIS content approved by the student's CIS minor advisor. Specify course completed:	
	ONE Course in Imaging	
☐	Computer Vision (601.461)	
☐	Image Processing and Analysis I (520.414)	
☐	Medical Imaging Systems (520.432 or 580.472)	
☐	Medical Image Analysis (520.433)	
	OR	
	ONE Course in Robotics	
☐	Robotic Sensors and Actuators (530.420)	
☐	Mechatronics (530.421)	
☐	Robotic Devices, Kinematics, Dynamics and Control (530.646)	
☐	Applied Optimal Control (530.603) with CIS project approved by CIS Minor advisor	
☐	Robot Devices, Kinematics, Dynamics, and Control (530.646)	
☐	Algorithms for Sensor Based Robotics (601.463)	

III B ***Required THREE Other Upper Level Courses related to CIS***

	Course	Semester completed or will be completed
☐	Computer Vision (601.461)	
☐	Image Processing and Analysis (520.414)	
☐	Robotic Devices, Kinematics, Dynamics and Control (530.646)	
☐	Mechatronics (530.421)	
☐	Intro to Biomechanics (530.445)	
☐	Electronics Design Lab (520.448)	
☐	Medical Imaging Systems (520.432/580.472)	
☐	Principles of the Design of Biomedical Instrumentation (580.471)	
☐	Robot Sensors and Actuators (530.420)	
☐	Medical Image Analysis (520.433)	
☐	Algorithms for Sensor Based Robotics(601.463)	
☐	Applied Optimal Control (530.603 with CIS project approved by CIS Advisor)	
☐	Augmented Reality (601.454)	
☐	Equivalent course determined by your advisor	

	Optional Courses that can be counted towards Upper Level Courses based on approval of advisor	Semester completed or will be completed
☐	Machine Learning: Deep Learning (601.482)	
☐	Machine Learning: Data to Models (with CIS Project) (601.476)	

STUDENT'S STATEMENT

I have reviewed my progress toward meeting the graduation requirements for the CIS Minor. I understand which requirements have been completed and which remain to be completed, including those in progress.

_____ _____

Student's Signature Date

_____ _____

CIS Minor Advisor's Signature - **FINAL APPROVAL** Date

(To be signed only on completion of ALL requirements)

_____ _____

CIS Minor Coordinator- Prof. Russell Taylor Date