CSCI Breadth Electives

Approved 4000-Level non-CSCI Courses and Cross-Listed Courses

For students who started at RPI in the Fall 2023/Spring 2024 academic year or later, please keep reading. Otherwise, if your first semester at RPI (regardless of your initial major) is earlier than Fall 2023, do **not** use this document as it does not apply to your degree requirements; see our website and the RPI Catalog for your specific curriculum requirements.

The courses listed below are approved as CSCI Breadth Elective courses.

Also note that **all CSCI 496x/497x/696x/697x courses are considered Breadth Electives**.

For any missing courses or questions, please contact the School of Science Advising Hub.

Approved 4000-Level Courses Outside of CSCI Department and Cross-Listed Courses	
COGS 4210/6210 (or CSCI 496x)	Cognitive Modeling
COGS 4420 (or CSCI 496x)	Game AI
COGS 4430/6430 (or CSCI 496x)	Learning and Advanced Game AI
COGS 4410/6410 (or CSCI 496x)	Programming for Cognitive Science AI
ESCE 4480 (or CSCI 4480)	Robotics I
ESCE 4490/6490 (or CSCI 4460/6490)	Robotics II
COGS 4640/6640 (or CSCI 496x/696x)	Intelligent Virtual Agents
COGS 4880/6880 (or CSCI 496x/696x)	Language Endowed Intelligent Agents
COGS 496x/696x (or CSCI 496x)	Social Computing
ESCE 4620/6620	Computer Vision for Visual Effects
ESCE 4660/6660	Internetworking of Things
ESCE 4670 (or CSCI 496x)	Computer Communication Networks (CCN)
ESCE 4740	Applied Parallel Computing for Engineers
ESCE 4770	Computer Hardware Design (CHD)
ESCE 4780	Advanced Computer Hardware Design (ACHD)
ESCE 4790	Microprocessor Systems (MPS)
ESCE 4840/496x	Introduction to Machine Learning
ESCE 4850/496x	Introduction to Deep Learning
ESCE 496x/696x	Quantum Computer Programming
ESCE 496x/696x	Networks and Networked Systems
ESCE 6610	Pattern Recognition
ESCE 6650	Computer Vision
ESCE 696x	Robot Dynamics and Control
GSAS 4550	Game Architecture
ITWS 4350/6350 (or CSCI 4350/6350)	Data Science
ITWS 4370	Information System Security
ITWS 4400/6400 (or CSCI 4400/6400)	X-informatics
ITWS 4500 (or CSCI 4520/496x)	Web Science Systems Development
ITWS 4600/6600 (or CSCI 4600)	Data Analytics
ITWS 4850/496x (or CSCI 4850/496x)	Modern Binary Exploitation
MATH 4030 (or PHIL 4420 or CSCI 4420)	Computability and Logic
MATH 4150 (or CSCI 4260)	Graph Theory
MATH 4800 (or CSCI 4800)	Numerical Computing
MATH 4820 (or CSCI 4820)	Intro to Numerical Methods for Diff. Eq.
MATH 4840	Numerical Linear Algebra with Applications
MATH 6800 (or CSCI 6800)	Computational Linear Algebra
MATH 6820 (or CSCI 6820)	Numerical Solution of Ordinary Differential Eqns
MATH 6840 (or CSCI 6840)	Numerical Solution of Partial Differential Eqns
MATH 6860 (or CSCI 6860)	Finite Element Analysis
MATP 4820/6610	Computational Optimization
MATP 6640	Linear Programming/Conic Optimization