Master of Science
Information Technology

ITWS @ Rensselaer

-- Version --

Fall 2023 and Spring 2024

GUIDELINES

In an effort to ensure all academic needs of our students are met, we are setting fourth guidelines for those students that require adjustments.

The following requests will be approved once reviewed by Dr. Brian Callahan, our Graduate Program Director, ONLY if you meet with Jeanne Luker (Graduate Program Advisor) first and request said changes to ones Graduate Plan of Study *a semester* before the change.

1. F1 Visa Program Extensions: Changes to your POS must be approved a semester in advance, if a student has made unapproved changes to their POS and in their final semester requests an extension without first discussing these changes a semester in advance, the request will be denied.

2. OPT/CPT requests

    a. These requests take 3-4 weeks to process. Please be prepared. An updated approved plan of study is required to process these requests. Further, these requests go through several stages (Department, OGE and ISSS) before approval.

3. Graduate Plan of Study

    - You must have an approved POS on file by the add deadline of your first semester.
    - Do not make changes to your Plan of Study without first consulting Jeanne Luker. Changes to your Plan of Study will only be approved after any proposed changes are discussed with Jeanne first and then presented to the Graduate Program Director, Dr. Callahan. These changes and approval take time. Please make all changes one semester ahead of time.
    - Your plan of study needs to accurately reflect the 10 courses you have taken to meet all degree requirements in order to be eligible to graduate.

This document will serve as guidelines moving forward from August 28, 2023, and is subject to be updated. Any updates or changes to these guidelines will be shared with all MS IT Graduate Students. These guidelines will allow us to better serve you all in a more time efficient manner and will also allow us to support the Office of Graduate Education.

TEACHING ASSISTANTSHIP AND RESEARCH ASSISTANTSHIP INFORMATION:

- The MSIT program offers limited Teaching Assistantship opportunities ONLY in the Fall semester each year to new, incoming MSIT students (not co-terminal students). These positions are full academic year appointments (Fall and Spring).
- Students interested in a teaching assistantship in the MSIT program should reach out to Dr. Brian Callahan and Jeanne Luker. There is an interview process.
- MSIT students (not co-terminal students) are eligible for teaching and research assistantships in other departments on campus if not hired through the MSIT program. If you are looking for a teaching or research assistantship position in another department, please be fully aware of the terms of the position before applying. In order to be eligible to be a TA or RA, students must be enrolled full time for at least 9 credit hours. (Example: if you are in your final semester of the MSIT program, you are not eligible and cannot apply for TA or RA positions that are full year positions).
- For more information about TA, RA, and other internal funding information, please visit this page: https://graduate.rpi.edu/funding-and-fellowships/internal-funding

MS IT CURRIUCULUM AND PLAN OF STUDY

Rensselaer's Master of Science in Information Technology balances the study of management strategies and technology leadership with advanced course work in an IT Focus Track. Students complete a suite of Core and Capstone courses and select three additional courses to complete their Focus Track. Both a professional and research track are offered for the MSIT degree.

Twelve Focus Tracks are currently available at Rensselaer's Troy Campus: Cognitive Computing, Data Science and Analytics, Database and Intelligent Systems, Financial Engineering, Human Computer Interaction, Information Dominance, Information Security, Information Systems Engineering, Management Information Systems, Networking, Software Design and Engineering, and Web Science.

Curriculum

Students admitted to the MSIT program develop an approved plan of study that includes the following:

- Ten total courses in IT (A minimum of thirty credits).

- A minimum of six courses (eighteen or more credits) at the 6000-graduate level.

- Five core courses in Information Technology (IT Core).

- Three courses (a minimum of nine credit hours) in a focus track of the student's selection.

- One elective from the program guide that does not meet any other degree requirement, or a different course approved by the Graduate Program Director, to add further breadth or depth to the degree.

- One of: ITWS-6800 Information Technology Master's Capstone course (Professional Track), ITWS-6980 Master's Project (Research Track 1 – one semester) or ITWS-6990 Master's Thesis (Research Track 2 – two semesters). For Research Track 2 only, replace ITWS-6300: Business Issues for Engineers and Scientists core course with ITWS-6990: Master's Thesis.

The core and focus track courses are designed to accommodate a wide range of backgrounds. If students have previously completed a basic required core course, they then complete a supplemental core required course to add depth in that core area. For example, if an equivalent course to Database Systems was completed in a prior degree, the Core requirement could be satisfied by taking Data Mining or Data Science. Our goal is to bring students to the next level of IT expertise. **SPECIAL NOTE:** Students who have completed an equivalent core course requirement during their undergraduate studies must provide a syllabus for the course to the Graduate Program Director for approval before registering for a supplemental core course.

Focus tracks are chosen from twelve possibilities. Focus track courses can be substituted at the discretion of the focus track advisor.

Students here over a summer generally complete a significant salaried co-op/internship assignment during that summer (or the summer/fall) terms. Any internship/co-op opportunities should be discussed with the Graduate Program Advisor and must be approved by the Graduate Program Director and the CCPD (Center for Career and Professional Development) Office.

The M.S. in IT Capstone course integrates the knowledge and professional practice of IT Core and Focus Track courses. Topics in database systems, networking, data analytics, software design and engineering, management of technology, human computer interaction, and ethics are applied within a framework of global e-business strategy. The course utilizes an Information Technology Team Project with a real organization to practice the major concepts of the IT Degree. Team members select, develop, and present a significant technology implementation project, incorporating strategy, systems development and business planning.

Rensselaer currently offers numerous Ph.D. degrees with significant IT related research including the Multidisciplinary Science degree with a research track in Information Technology. There is no separate Ph.D. degree in Information Technology.

Transfer credit is not expected to fulfill Core or Focus Track requirements. Students can waive an IT core area requirement and substitute an approved elective only if they have already taken the equivalent of all listed core and supplemental core courses. Students may request transfer credit for the elective, subject to advisor approval. Additionally, no more than half of all credits used towards the M.S. in IT degree may be taken from courses offered by the Lally School of Management and Technology. These courses are coded MGMT.

Core Courses

To acquire a breadth of IT experience, master's degree students take the five Core courses listed below and one elective to add depth to the degree. If students have previously completed a Core course at Rensselaer or elsewhere, they fulfill the Core requirement by taking an advanced course in that area.

Required Core Courses

IT Core Area	Course Number	Course Title	Term(s) Offered
Database Systems	CSCI-4380	Database Systems*	Fall/Spring
	ITWS-6250	Database Applications and Systems*	Fall
Data Analytics	ITWS-6350	Data Science	Fall
Software Design and Engineering	CSCI-4440	Software Design and Documentation	Fall/Spring
	ITWS-6700	Software Development	Spring
Management of Technology**	ITWS-6300	Business Issues for Engineers and Scientists (Professional Track Only)	Fall/Spring
Human Computer Interaction	COMM-6420	Foundations of HCI Usability	Fall
Elective		Any 4000/6000 Level course found in this document or approved by the Graduate Program Director.	Fall/Spring

* Students may receive credit for only one ITWS-4250, ITWS-6250 or CSCI-4380.

** For research track 2, replace ITWS-6300 Business Issues for Engineers and Scientists with ITWS-6990 Master's Thesis.

** For students who have graduated with an ITWS UG degree; and students who are dual MS with Management, replace ITWS-6300 with a 4000/6000 level MGMT elective approved by the Graduate Program Director.

One of:

Master's Capstone*	ITWS-6800	Information Technology Master's Capstone (Professional Track Only)	Fall/Spring
Master's Project One Semester	ITWS-6980	Master's Project (Research Track 1)	Fall/Spring
Master's Thesis Two Semesters	ITWS-6990	Master's Thesis (Research Track 2)	Fall/Spring

* For the professional track, ITWS-6800 can be replaced with ITWS-6980 Master's Project if you have already taken ITWS-4100

Supplemental Core options for students who have previously completed a Core Course

IT Core Area	Course Number	Course Title	Term(s) Offered
Database Systems	CSCI-6390	Data Mining	Fall
	ITWS-6350	Data Science	Fall
Data Analytics	CSCI-6390	Data Mining	Fall
	ITWS-6400	X-Informatics	Spring
	ITWS-6600	Data Analytics	Fall/Spring
Software Design and Engineering	CSCI-6500	Distributed Computing Over the Internet	Spring
	ITWS-6400	X-Informatics	Spring
Management of Technology	MGMT-6080	Networks and Value Creation	Fall
	MGMT-6140	Managing Digitization and Transformation	Spring
Human Computer Interaction	COMM-6880	Interactive Data Visualization	Summer

Focus Tracks

The ITWS faculty designed the IT Focus Tracks to provide an in-depth, cutting-edge experience in the application of Information Technology. Students are free to select any focus track to complete their degree. Students often select areas that complement their prior backgrounds (e.g., students with strong backgrounds in computer science may select Management Information Systems or Information Systems Engineering). Alternately, some students select a focus track area related to their prior backgrounds and then expand on that background through higher-level coursework.

NOTES:
- Courses taken to complete a Core requirement do not count towards the Focus Track.
- Students should have the prerequisites knowledge for each course as described in the university catalog: http://www.rpi.edu/academics/catalog/index.html

Concentration	Course Number	Course Name	Term(s) Offered
COGNITIVE COMPUTING ADVISOR: BRAM VAN HEUVELN	Different people take 'cognitive computing' to mean different things. Roughly, we can split these different meanings in two groups. The first group uses 'cognitive computing' to denote computational methods that attempt to mimic the way the human mind processes information: stand-alone technologies that have cognitive capacities in and of themselves. An example would be a deep learning neural network that performs image recognition. The second group uses the term to denote computational tools that 'fit' and 'enhance' the human mind: human-centered technologies that are cognitively ergonomic and cognitively enabling: technologies that take into account the scope and limits of human cognition but that allow the human user to augment their cognitive capacities. An example would be Watson as a paramedic. Of course, these two different meanings are not exclusive. In fact, in order for a system to augment the cognitive powers of a human user, the system is likely to require some intelligence in and of itself. Our program of Cognitive Computing is along the lines of the second meaning of the term: it is a program that studies how human cognition can be extended through the use of intelligent technology. As such, the program draws largely from the cognitive sciences, information sciences, and communication sciences.		
	Select three of the following courses:		
	COGS-6210	Cognitive Modeling I	Spring
	CSCI-4100	Machine Learning from Data	Fall
	CSCI-6270	Computational Vision	Fall
	CSCI-6390	Data Mining	Fall
	COGS-6410	Programming for Cog Sci and AI	Spring
	ITWS-6400	X-informatics	Spring
	ISYE-4260	Human Performance Modeling and Support	Availability of instructor
	PSYC-4370	Cognitive Psychology	Fall/Spring

Concentration	Course Number	Course Name	Term(s) Offered
	Data Science and analytics extends analysis (descriptive and predictive models to obtain knowledge from data) by using insight from analyses to recommend action or to guide and communicate decision-making. Thus, analytics is not so much concerned with individual analyses or analysis steps, but with an entire methodology. Key topics include: advanced statistical computing theory, multivariate analysis, cluster analysis, and application of computer science courses such as data mining and machine learning and change detection by uncovering unexpected patterns in data to gain insights to help make data driven decisions.		
	Select two or three of the following courses:		
	ITWS-6350	Data Science	Fall
	ITWS-6400	X-Informatics	Spring
	ITWS-6600	Data Analytics	Fall/Spring
	If only two of the above were chosen, select one more of the following courses:		
	COMM-6880	Interactive Data Visualization	Summer
DATA SCIENCE AND ANALYTICS ADVISOR: THILANKA MUNASINGHE	CSCI-4020	Design and Analysis of Algorithms	Spring
	CSCI-4150	Introduction to AI	Spring
	CSCI-4220	Network Programming	Fall
	CSCI-4320/ CSCI-6360	Parallel Programming/ Parallel Computing	Spring
	CSCI-6100	Machine Learning from Data	Fall
	CSCI-6020	Design and Analysis of Algorithms	Spring
	CSCI-6270	Computational Vision	Fall
	CSCI-6390	Data Mining	Fall
	ISYE-4140	Statistical Analysis	Spring/ Summer
	ISYE-4220	Optimization Algorithms and Applications	Availability of instructor
	ISYE-4360	Applied Data Science	Availability of instructor
	ISYE-6350	Systems Engineering and Social Media	Availability of instructor
	ITWS-6360	Data and Society	Spring
	ITWS-6440	Big Data Policies	Spring
	MGMT-6100	Foundations of Data Science	Fall/Spring
	MGMT-6560	Intro to Machine Learning Aps	Fall/Spring

Concentration	Course Number	Course Name	Term(s) Offered
DATABASE AND INTELLIGENT SYSTEMS ADVISOR: RICHARD PLOTKA	The Database and Intelligent Systems Focus Track prepares students for careers in database design, database administration, database application development, or database systems implementation. Database design focuses on modeling some aspect of a physical or conceptual world that must be captured in a database as part of a larger application system. Database administration (DBA) focuses on installation, operation, and maintenance of a database system and its applications on a day-by-day basis for an organization or company. Database application development focuses on building complex application systems, including web-based applications that use a database at their core. Database systems implementation focuses on creating the underlying database system itself and is most likely done with a career in a database vendor company.		
	Select three of the following courses:		
	CSCI-4150	Introduction to AI	Spring
	CSCI-6100	Machine Learning from Data	Fall
	CSCI-6390	Data Mining	Fall
	CSCI-6510	Distributed Systems and Algorithms	Fall
	ISYE-4810	Computational Intelligence	Upon availability of instructor
	ITWS-6350	Data Science	Fall
	ITWS-6600	Data Analytics	Fall/Spring

Concentration	Course Number	Course Name	Term(s) Offered
FINANCIAL ENGINEERING* *** prerequisite – knowledge in finance is required** ADVISOR: APARNA GUPTA		The Financial Engineering Focus Track prepares students for careers in the financial industry, with opportunities in financial analysis, management, and consulting and also in banking, investments, and insurance. The combination of advanced study in IT and Financial Engineering uniquely qualifies graduates to assist firms seeking IT solutions to financial systems. The FE Focus Track is offered jointly with the Lally School of Management and Technology. Students are introduced to the mathematical approach to risk analysis, portfolio selection, investment planning and derivative instruments, among other financial topics. Focus will be on modeling, optimization, statistical and other computational techniques.	
	MATH-4740	Intro. To Financial Mathematics and Engineering (required)	Fall term even numbered years
	MGMT-7760	Risk Management (required)	Spring
	With Advisor approval, choose three additional courses:		
	CSCI-4120/6120	Computational Finance	Upon availability of instructor
	ECON-4120	Mathematical Methods in Economics	Fall
	MATP-4700	Mathematical Models of Operations Research	Fall
	MATP-4820	Computational Optimization	Spring
	MGMT-6020	Financial Management I	Spring
	MGMT-6370	Options, Futures and Derivatives Markets	Fall
	MGMT-6400	Financial Econometrics Modeling	Spring
	MGMT-6420	Student Managed Investment Fund	Spring
	MGMT-6510	Financial Computation & Simulation	Spring
	MGMT-6520	Financial Modeling and Optimization	Fall

Concentration	Course Number	Course Name	Term(s) Offered
HUMAN COMPUTER INTERACTION ADVISOR: PATRICIA SEARCH	The Human-Computer Interaction Focus Track prepares IT professionals for careers in information technology design and development. The focus is on the ways technical skills in IT can be applied in a user-centered rather than a strictly technology-centered or developer-centered way. In the HCI Focus Track, students are given the opportunity to: • practice the research and design skills necessary to produce effective, usable human interfaces for IT systems • deepen their understanding of cognitive and social theories underlying effective human interface design, and • acquire the ability to make strategic decisions based on user data which will enhance the processes and products associated with IT design Students with an HCI Focus Track may go on to careers in fields such as User-Centered Design, Human Factors and Usability Engineering, and Quality Assurance, contributing to a wide variety of hardware and software product areas.		
	Select three of the following courses:		
	COMM-4470	Information Design	Spring
	COMM-4690	Interface Design: Hypermedia and Application	Spring term, even numbered years
	ARTS-6090	Art and Code and Interactivity	Fall
	COMM-6560	Visual Design: Theory and Application	Fall term – even numbered years
	COMM-4880/6880	Interactive Data Visualization	Summer
	ISYE-4260	Human Performance Modeling and Support	Upon availability of instructor

Concentration	Course Number	Course Name	Term(s) Offered
INFORMATION DOMINANCE ADVISOR: BRIAN CALLAHAN	The Information Dominance Focus Track prepares students for careers designing, building, and managing secure information systems and networks. The Focus Track includes advanced study in encryption and network security, formal models and policies for access control in databases and application systems, secure coding techniques, and other related information assurance topics. The combination of coursework provides comprehensive coverage of issues and solutions for utilizing high assurance systems for tactical decision-making. It prepares students for careers ranging from secure information systems analyst, to information security engineer, to field information manager and chief information officer. It is also appropriate for all IT professionals who want to enhance their knowledge of how to use pervasive information in situational awareness, operations scenarios, and decision-making.		
	Select two or three of the following courses:		
	CSCI-4220	Network Programming	Fall
	CSCI-6230	Cryptography and Network Security I	Fall
	ECSE-4670	Computer Communication Networks	Fall
	ISYE-4310	Ethics of Modeling for Industrial Systems Engineering	Upon availability of instructor
	ITWS-4370	Information System Security	Spring
	ITWS-4850	Modern Binary Exploitation	Fall
	If only two of the above were chosen, select one more of the following courses:		
	ITWS-496X	Modern Binary Exploitation	Fall
	ITWS-6440	Big Data Policies	Spring
	CSCI-6450	Principles of Program Analysis	Spring term – even numbered years

Concentration	Course Number	Course Name	Term(s) Offered
INFORMATION SECURITY ADVISOR: BRIAN CALLAHAN	The Information Security Focus Track prepares students for 21st Century challenges securing data and networks. The Focus Track includes study in encryption, network security, policy and ethics, cloud security, access control in databases and application systems, secure coding techniques, and exploitation techniques, and other information assurance topics. The combination of coursework provides comprehensive coverage of issues and solutions for today's red team and blue team careers. It prepares students for careers including governance, risk, and compliance fields, penetration tester, cybersecurity analyst, security engineer, security manager, and chief security officer. It is also appropriate for others who expect to follow a different career path but want a comprehensive background in information assurance.		
	Select two or three of the following courses:		
	CSCI-4210	Operating Systems	Spring/ Summer
	CSCI-6230	Cryptography and Network Security I	Fall
	ITWS-4370	Information System Security	Spring
	ITWS-4850	Modern Binary Exploitation	Fall
	If only two of the above were chosen, select one more of the following courses:		
	ITWS-496X	Modern Binary Exploitation	Fall
	ISYE-4310	Ethics of Modeling for Industrial Systems Engineering	Upon availability of instructor
	CSCI-6450	Principles of Program Analysis	Spring term – even numbered years

Concentration	Course Number	Course Name	Term(s) Offered
INFORMATION SYSTEMS ENGINEERING ADVISOR: AL WALLACE	The Information Systems Engineering (ISE) Focus Track prepares students to succeed in the Information Systems (IS) profession as a technically competent systems analyst, software designer, and application developer. The IS profession is generally made up of business analysts, systems designers, and programmers; where business analysts identify requirements with end users, systems designers construct the information architecture (networks, databases, and applications) required, and programmers develop the software implementation. Graduates of this ISE Focus Track will claim the middle domain, systems designer, while being perfectly capable of moving into either of the other two domains. The graduates could go anywhere information systems are used, meaning essentially any modern organizations in any sector of the economy. The ISE curriculum combines competencies in databases and software engineering with technical analysis and design tools to give graduates a unique blending of knowledge.		
	Select three of the following courses:		
	CSCI-6390	Data Mining	Fall
	CSCI-6120	Computational Finance	Upon availability of instructor
	ECSE-6860	Evaluation Methods for Decision Making	Upon availability of instructor
	ISYE-4310	Ethics of Modeling for ISYE	Upon availability of instructor
	ISYE-6610	Systems Modeling in Decision Sciences	Fall
	ISYE-6620	Discrete-Event Simulation	Spring
	ITWS-6600	Data Analytics	Fall/Spring
	MGMT-6140	Managing Digitization and Transformation	Spring
	MGMT-6170	Advanced Systems Analysis and Design	Spring
	MGMT-6570	Advanced Data Resource Management	Fall/Spring

Concentration	Course Number	Course Name	Term(s) Offered
MANAGEMENT INFORMATION SYSTEMS ADVISOR: MATTHEW GRILL	The Management Information Systems Focus Track is designed for professionals seeking executive positions with responsibilities for achieving competitive advantage through the effective development and integration of information technology into organizations. The emergence of Internet and the World Wide Web has ushered in a new paradigm for organizing in which information technology and IT management capabilities could determine winners and losers in electronic markets. The net result is a growing need for managers in all functional areas to be conversant with strategies and tactics for managing the use of information technology. This Focus Track is designed to fulfill this need and expose students to IT management concepts and theories. The courses use an interdisciplinary approach, are project and case based and provide a solid grounding in systems analysis and design, IT project management, enterprise information architecture planning and design, evaluation of IT value, identification and assessment of opportunities for IT-enabled business transformation and information systems management. MIS graduates can find managerial positions in the information systems departments in organizations and in consulting.		
	Select three of the following courses		
	Note: A maximum of five management courses (prefix: MGMT) may be taken towards the IT degree.		
	CSCI-6390	Data Mining	Fall
	MGMT-4150	IT Project Management	Spring
	MGMT-6060	Business Implications of Emerging Technologies	Fall
	MGMT-6080	Networks and Value Creation	Fall
	MGMT-6140	Managing, Digitization and Transformation	Spring
	MGMT-6560	Intro to Machine Learning Apps	Fall/Spring
	MGMT-6570	Advanced Data Resource Management	Fall/Spring
	MGMT-6690	Negotiations	Spring
	MGMT-6720	Internet Marketing	Spring

Concentration	Course Number	Course Name	Term(s) Offered
NETWORKING ADVISOR: CHRIS CAROTHERS	The Computer Networking Focus Track prepares students for careers in network design and planning, network monitoring and management, network application development, or network deployment and customization. Network design and planning focuses on projecting the organization or company needs onto the structure and configuration of its network, including capacity, security and applications. Network monitoring and management focuses on installation, operation, and maintenance of a network, including identifying and responding to the failures and attacks, on a day-by-day basis for an organization or company. Network application development focuses on building complex distributed software systems that depend heavily in their execution on networking. Network deployment and customization focuses on creating the network for a company or organization, including customization of the general network features. Typical careers will place graduates at network vendor companies, Internet service or application providers (ISP or ASP) or at the IT departments of any organization or enterprise.		
	Select three of the following courses:		
	CSCI-4220	Network Programming	Fall
	CSCI-4320/ CSCI-6360	Parallel Programming/ Parallel Computing	Spring
	CSCI-6230	Cryptography and Network Security I	Fall
	CSCI-6250	Frontiers of Network Science	Fall term, odd numbered years
	CSCI-6510	Distributed Systems and Algorithms	Fall
	ECSE-4670	Computer Communication Networks	Fall

Concentration	Course Number	Course Name	Term(s) Offered
SOFTWARE DESIGN AND ENGINEERING ADVISOR: RICHARD PLOTKA	The Software Design Focus Track prepares students for careers in design and development of software applications and infrastructure. For software applications design and development, students obtain necessary skills and perspective for supervising and participating in all phases of software projects: architecture, high-level design, detailed design, documentation, implementation, testing, systems integration, and system maintenance. These same phases are also important in developing software infrastructure, including software component libraries and other foundations for productive applications development. Additional issues for software infrastructure include systematic classification of software library components, design of interfaces for interoperability, and assuring reliability and high performance even as existing components are redesigned for broader applicability. Areas in which there is high demand for software applications designers include, among many others, simulation software, distributed systems, embedded systems, web technologies and protocols, and graphical user interfaces. Companies and organizations developing such applications are also increasingly recognizing the role of specialists in software infrastructure.		
	Select two or three of the following courses:		
	CSCI-4210	Operating Systems	Spring/Summer
	CSCI-4320/ CSCI-6360	Parallel Programming/ Parallel Computing	Spring
	CSCI-4430	Programming Languages	Fall
	CSCI-4440	Software Design and Documentation	Fall/Spring
	CSCI-6510	Distributed Systems and Algorithms	Fall
	ISYE-4220	Optimization Algorithms and Applications	Upon availability of instructor
	ITWS-6400	X-Informatics	Spring
	ITWS-6700	Software Development	Spring
	MGMT-6170	Advanced Systems Analysis and Design	Spring
	If only two of the above were chosen, select one more of the following courses:		
	COMM-4690	Interface Design: Hypermedia Theory and Application	Spring term – even numbered years
	COMM-6560	Visual Design: Theory and Application	Fall
	COMM-6880	Interactive Data Visualization	Summer

Concentration	Course Number	Course Name	Term(s) Offered
WEB SCIENCE ADVISOR: JIM HENDLER	The study of Web Science gives students insights into understanding what the web is and how to engineer its future and ensure its social benefit. The new Web Science Focus Track contains courses focused on one of the most powerful research, social and commercial technologies of our time. The leader of the Focus Track is Dr. James Hendler, an internationally renowned figure in Web research and one of the pioneers of the Semantic Web. Along with colleague Dr. Deborah McGuinness, Dr. Hendler is working on research to advance scientific discovery and innovation by enabling rapid and easy collaboration between scientists, educators, students, policy makers, and even "citizen scientists" around the world wide web. They have created an innovative set of courses that focus on new trends in eScience and new technologies for the World Wide Web. IT professionals who complete this Focus Track can apply their knowledge to careers in web-based businesses, web-based startup companies, or to playing the role of innovators in their organizations' use of the web.		
	Select two or three of the following courses:		
	COMM-4470	Information Design	Fall
	COMM-4580	Advertising and Culture	Spring term – even numbered years
	COMM-4690	Interface Design: Hypermedia Theory and Application	Spring term – even numbered years
	COMM-6510	Communication Theory & Practice	Fall
	COMM-6880	Interactive Data Visualization	Summer
	CSCI-4220	Network Programming	Fall
	CSCI-6510	Distributed Systems and Algorithms	Fall
	ITWS-6400	X-Informatics	Spring
	MGMT-6720	Internet Marketing	Spring
	If only two of the above were chosen, select one more of the following courses:		
	CSCI-6100	Machine Learning from Data	Fall
	CSCI-6340	Ontologies	Fall
	ITWS-6350	Data Science	Fall
	ITWS-6600	Data Analytics	Fall/Spring

The following materials are required for your application to be considered:

1. GPA of at least 3.0
2. Resume or CV
3. Undergraduate transcripts
4. Undergraduate core coursework including Data Structures and Computer Science I.
5. At least two letters of recommendation, three letters strongly recommended.
6. Personal statement
7. IT Background Evaluation form

The GRE exam is not required for admission and will not be considered in decision making.

Significant industry experience may be used to remedy deficiencies in undergraduate core coursework.

For Additional Information:

https://itws.rpi.edu

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