

# SPRING 2011

## Topics Course Descriptions

### **Arch 4933/01 CRN 76260      Equation-based Morphologies**

A scripting-based approach to modeling geometry utilizes features of programming including logical and mathematical operations. The ability to model with mathematical operations allows unprecedented accessibility to the generative possibilities and comprehension of equation based geometry. This seminar will build on precedents for equation-based geometry in architecture, speculate on new possibilities enabled by script-based geometry techniques and explore the return of mathematical intuition in contemporary architecture. Andrew Saunders MR 12-2. Cr 4.

### **ARCH 4935/01 CRN 76306      Boom and Bloom**

Over the last three decades there has been a growing ecological consciousness traceable through an ever-increasing body of (field) research on hand, and the pursuit of a theorization of ecology, on the other. Predictably, there are many different approaches and propositions; however expert communities appear to agree overwhelmingly that we are undergoing a significant phase of bio-physical transformation with the new speed and form of urbanization driving much of it. This is a time when architecture should play a central role in shaping the public debate through speculative-creative responses coupling emerging research and theory, helping to project and realize primarily metrics based and pursued from a planning and management perspective or with only a narrow focus on building technology. The content and structure of the seminar aims at providing an explicit architect's perspective in examining state-of-the art urban ecology research and theories attuned to an eco-logic.

Kolatan. Limited Enrollment 12. 2 cr.

### **ARCH4961/01 - CIVL4961/01 CRN 74473-74474      Bedford Seminar (taught w/CIVL4961)**

The Bedford seminar is an interdisciplinary Architecture and Engineering course. The course is focused on technology as a form generator with particular emphasis on structural engineering and advanced structures. The content of the lectures bears direct relation to practical experience and are considered to be supplementary to the other courses in the respective engineering and architecture departments. Specific types of structures will be examined with the help of suitable existing project examples clarifying and critically analyzing the basic engineering and architectural principles behind them. The

course consists of a lecture by the instructor about the actual subject, presentations by the students of relevant projects and immediate open discussion of those projects and presentations. The students will be exposed to the collaborative methods inherent within the architect/engineer relationship. Limited Enrollment: 8 Arch / 8 Civil Eng students (selection based on seniority). Prerequisites: Architecture Students – Arch 2330 Structures 1, Arch 4330 Structures 2. Civil Engineering Students – Civil 2670 Intro to Structural Engineering.

Michael Stein R 6 -8:50 pm. Cr.2.

**ARCH4962/01 CRN 75890      New Evolutions(s)**

Since the middle of the twentieth century we are talking about new, post-biological future. We want to “engineer new species from scratch”, “breath life into inert matter and gain immortality for ourselves”. Nature keeps still about these discussions and... struggles daily for survival. How will that future look? W 10-11:50 am. Oksiuta. 2 cr

**ARCH4963/01 CRN 76133      Modular Thinking**

The path from unit to multiply defines masonry and much of the history of building. Merging low and high tech approaches, this course will focus in a critical and creative hands-on investigation of different casting techniques and materials (plaster, concrete, glass, ceramics) including mold design and making. The final aim will be the developing three-dimensional building units that challenge the idea of what a “brick” could be. Field trips to manufacturing facilities/shops will be arranged. Basic knowledge on digital fabrication desired but not required.

**ARCH 4967/01 CRN 75575      Design Philosophies: Towards a New Technique**

This course will explore and critique the philosophical, intellectual, and aesthetic texts that have influenced recent design and theoretic trends in contemporary architecture, practice and criticism. Focusing primarily on the seminal texts that influenced the design and theoretical trajectories of the most influential minds in architecture over the last fifteen years, a comprehensive critique of the current trends in architectural design theory will emerge. Each student will be expected to make a presentation and write a paper on the subject of the course.

Jefferson Ellinger. M 10:00 – 12:00. Cr. 2.

**ARCH4968/01 CRN 75576      Sustainable Building Design Metrics**

A review of current and anticipated metrics associated with sustainable building design will be covered as well as changes in the building industry will be discussed. A review of how sustainable design practices can mitigate the climate change in a positive way will also be addressed. An understanding of energy terminology is useful for this course. Course Objectives: Impact of building design and construction on the environment and associated climate change concerns. Design considerations for architecture and engineering in new construction and renovations. Opportunities for improvements in renovation projects.

Oliver Holmes, T 9:00 – 9:50 pm, Cr. 1

**ARCH 4969/01 CRN 75700      Analogical Models: Contemporary Art Theory and Practices**

It can be argued that architecture is the result of disparate forces, bodies of knowledge and forms of practice. Many of these practices may be parallel to architecture while others may run cross-directionally or tangentially. Architecture has tended to reflect systems as diverse as, cosmological orders, divine beings, natural orders, abstract mathematical models, as well as aesthetic principles. Absorbing and adapting the theoretical proposition set forth by philosopher Felix Guattari in his book *The Three Ecologies*, we will examine his program of a mental ecology as a means of exploring forms of contemporary art theory and practice. We will establish the theoretical framework in which to explore and invent the means of strategically implementing these methods of thought and practice into architecture.

Anthony Titus R 12-1:50pm.

**ARTS-2961/01 CRN 74764      Graphic Storytelling**

A studio arts course exploring the fundamental concepts, techniques, styles and mechanics used in the creation of graphic image making. Contents to be covered include purposes and formats of storyboards, basic terminology and concepts used in storyboarding, and the applications of storyboard techniques to the creation of storyboards with or without a written script. Key visual storytelling structures are explored for the following industry applications: comics, animated films, graphic novels, commercials, documentaries, live action feature films, and video gaming. Prereq: ARTS 1020 OR ARTS 1200. Cr: 4 Instr: Blum

**ARTS-4010/01 CRN 73864      Interactive Arts Programming**

An advanced interactive arts studio projects class. We will develop works suitable for senior portfolios/graduate research and meet parallel to the IT for Arts class with EMPAC Senior engineer Eric

Ameres for technical feedback and special tutorials. Email instructor for more details. Meets w/ARTS-6965 and ITWS-4961. Cr: 4 Instr: Bahn

**ARTS-4100/01 CRN 76225      Electronic Arts Theory Seminar: Studies of Improvisation and Composition**

This seminar will focus on the study of a few select musical movements of the late 20th and early 21st Century. The overall framework of our inquiry will be to consider differences between musical composition and musical improvisation. Students will be required to do extensive reading and listening, to do creative projects, and to participate in regular improvisation exercises. Students should have some expertise in some art form, but need not have a musical background. Meets w/Arts-6968. Prereq: EMAC and BS EART majors or graduate students in the Arts Dept may enroll. Others need permission of the instructor, and must be prepared to use some art medium (music, visual art, media, acting, dance, etc.) as a basis for improvisation exercises. Contact instructor by email for permission. [rolnick@rpi.edu](mailto:rolnick@rpi.edu) Cr: 4 Instr: Rolnick

**ARTS-4960/01 CRN 76184      Game Development II**

Game Development II is the culminating experience of the Game and Simulation Arts & Sciences degree. It is a studio course in which interdisciplinary groups of students (artists, designers, and programmers) develop an advanced, large-scale 3D digital interactive experience, to be evaluated at the annual GameFest symposium. Prerequisite: Game Development I. Cr: 4 Instr: Chang

**ARTS-4962/01 CRN 74765      Experimental Telepresence**

This semester will continue the investigation of the INTERNET as an experimental venue for audio and video performance through improvisation and composition. Building on the NSF CreativeIT funded research in telepresence developed by Arts professor Pauline Oliveros and Architecture professor Jonas Braasch at RPI with Post Doctoral research associate Doug van Nort we will connect with other institutions using a variety of media in local and co-located performances. Triple Point - the NSF lab trio will collaborate with the seminar multimedia ensemble Tintinnabulate. The Creative Artificially Intelligent Agent (CAIM) will be tested and included as a resource for projects. Prereq: permission of instructor. Meets w/Arts 6962. Cr: 4 Instr: Oliveros, Braasch, co-adviser Van Nort (Arts/Arch)

**ARTS-4963/01 CRN 76231      Pure Performance**

This course will look at examples of performance art that is strictly located in the body. Such examples may include works of Ana Mendieta, Leigh Bowery and Lygia Clark. The focus will be on Performance Art or Live Art that springs out of the conceptual art movement of the 70's. We will look at how artists have pushed the boundaries of their own bodies. This is not a conventional theatre course but rather a class in which students will be asked to create their own body-based performance art works. Meets w/ARTS-6963. Cr: 4 Instr: Bustamante

**ARTS 4964/01 CRN 76233      Advanced Video: Expanded Video**

Taking the title from Gene Youngblood's Expanded Cinema (1970), a book that looked at early video art forms other than television, "Expanded Video" is an intense video production class that explores the boundaries of the medium. This class will probe video installation, video sculpture, and public projections as means to "get outside the box". Or as Gene Youngblood put it: "When we say expanded cinema we actually mean expanded consciousness." This class is about creating new ways of communicating in public spaces. We will look at art works from the 1960s and 70s to inspire new environments using media. Meets with Arts-6964. Prereq: ARTS 2010 or permission of instructor. Cr: 4 Instr: High

**ARTS-4967/01 CRN 76235      Inflatable Public Sculpture**

This class is a survey of pneumatic art, focusing on inflatable sculpture as public art and wearable fashion. It is a studio class where we will design and build inflated sculptures of our own. Meets with ARTS-6967. Cr: 4 Instr: Vamos

**ARTS-4971/01 CRN 76237      Advanced Digital Imaging**

An upper level studio exploring individual visual arts projects contributing to culminating experience, thesis or dissertation development. Topics in creative personal expression in imaging, installation, and mixed media practices will be explored drawing from issues raised in class projects. High resolution digital photography, painting, illustration, processing, printing, as well as nanostructures, assemblage, archi-structures, and projection will be explored. Prereq: a related 4000 level visual arts or animation course, or permission of instructor. Meets w/Arts-6971. Cr: 4 Instr: RuiZ

**ARTS-6961/01 CRN 75072      Arts Ph.D. Colloquium**

This course is a forum for the Arts Ph.D. program and is intended to create an arts doctoral discourse and community at Rensselaer. Artists, researchers, theoreticians, historians, and curators from outside and within the Rensselaer community will be invited to present at the colloquium. The Ph.D. students will select these colloquium speakers. Rensselaer faculty and arts doctoral students will also present their creative work and research. Readings and writing assignments will be based on colloquium presentation. Ph.D. students are required to take the colloquium each semester until they have passed their candidacy exam. Cr: 3 Instr: Rolnick

**ARTS-6962/01 CRN 74766      Experimental Telepresence**

This semester will continue the investigation of the INTERNET as an experimental venue for audio and video performance through improvisation and composition. Building on the NSF CreativeIT funded research in telepresence developed by Arts professor Pauline Oliveros and Architecture professor Jonas Braasch at RPI with Post Doctoral research associate Doug van Nort we will connect with other institutions using a variety of media in local and co-located performances. Triple Point - the NSF lab trio will collaborate with the seminar multimedia ensemble Tintinnabulate. The Creative Artificially Intelligent Agent (CAIM) will be tested and included as a resource for projects. Meets w/Arts 4962. Cr: 3 Instr: Oliveros, Braasch, co-adviser Van Nort (Arts/Arch)

**ARTS-6963/01 CRN 76232      Pure Performance**

This course will look at examples of performance art that is strictly located in the body. Such examples may include works of Ana Mendieta, Leigh Bowery and Lygia Clark. The focus will be on Performance Art or Live Art that springs out of the conceptual art movement of the 70's. We will look at how artists have pushed the boundaries of their own bodies. This is not a conventional theatre course but rather a class in which students will be asked to create their own body-based performance art works. Meets w/Arts-4963. Cr: 3 Instr: Bustamante

**ARTS 6964/01 CRN 76234      Advanced Video: Expanded Video**

Taking the title from Gene Youngblood's Expanded Cinema (1970), a book that looked at early video art forms other than television, "Expanded Video" is an intense video production class that explores the boundaries of the medium. This class will probe video installation, video sculpture, and public projections as means to "get outside the box". Or as Gene Youngblood put it: "When we say expanded cinema we actually mean expanded consciousness." This class is about creating new ways of communicating in public spaces. We will look at art works from the 1960s and 70s to inspire new environments using media. Meets with Arts-4964. Cr: 3 Instr: High

**ARTS-6965/01 CRN 75122      Interactive Arts Programming**

An advanced interactive arts studio projects class. We will develop works suitable for senior portfolios/graduate research and meet parallel to the IT for Arts class with EMPAC Senior engineer Eric Ameres for technical feedback and special tutorials. Email instructor for more details. Meets w/ARTS-4010 and ITEC-4961. Cr: 3 Instr: Bahn

**ARTS-6966/01 CRN 74476      Art, Community, Technology**

Through direct experience in the community, this course explores the complex roles and relationships of art, education and technology, Students will develop a plan to work with a media arts center, community organization or school; final teams will produce real-world arts and education projects that ultimately will be realized as significant additions to their professional portfolio. The projects can include a range from traditional arts practice to creative writing, creative IT models to community art and activism. Students from a wide interdisciplinary range of studies are encouraged to enroll: a strong interest in how you can integrate creativity into your own knowledge base, and a desire to do field work in the community, are all that is required. Meets w/ARTS 4080. Cr: 3 Instr: Miller

**ARTS-6967/01 CRN 76236      Inflatable Public Sculpture**

This class is a survey of pneumatic art, focusing on inflatable sculpture as public art and wearable fashion. It is a studio class where we will design and build inflated sculptures of our own. Meets with Arts-4967. Cr: 3 Instr: Vamos

**ARTS-6968/01 CRN 76226      Electronic Arts Theory Seminar: Studies of Improvisation and Composition**

This seminar will focus on the study of a few select musical movements of the late 20th and early 21st Century. The overall framework of our inquiry will be to consider differences between musical composition and musical improvisation. Students will be required to do extensive reading and listening, to do creative projects, and to participate in regular improvisation exercises. Students should have some expertise in some art form, but need not have a musical background. Meets w/Arts-4100. Prerequisite: a 1000 level Arts course, or permission of the instructor. Cr: 4 Instr: Rolnick

**ARTS-6969/01 CRN 76230      Writing/Directing for Video**

This course introduces students to the art of writing and directing short videos, with an emphasis on generating ideas, and realizing them in a well developed final project. Major theories and principles are studied through a comparative analysis of scripts and films. Students learn to work with actors, write their own scripts, and direct videos. Two final projects – a script and a video – will integrate all of the elements covered in class. Meets w/Arts-4630. Cr: 3 Instr: Bustamante

**ARTS-6971/01 CRN 76238      Advanced Digital Imaging**

An upper level studio exploring individual visual arts projects contributing to thesis or dissertation development. Topics in creative personal expression in imaging, installation, and mixed media practices will be explored drawing from issues raised in class projects. High resolution digital photography, painting, illustration, processing, printing, as well as nanostructures, assemblage, archi-structures, and projection will be explored. Meets w/Arts-4971. Cr: 3 Instr: Ruiz

**BMED-6961/01 CRN 76301      Molecular and Cellular Mechanics**

3 credits

Prerequisites:              BMED-4540 (Biomechanics)

Mechanical design of molecular and cellular systems with emphasis on biomechanics of macromolecules. Selected topics include biopolymers, bionetworks, biomembranes, cellular design, filament dynamics, and mechanical design of cells. The textbook is “Mechanics of the Cell” by David Boal.

**CIVL/ENVE 1960-01 CRN 75767 Autocad Civil 3D**

Instructor: Jason Dolmetsch, M 6:00-7:50 PM

An introduction to the elements of computer aided design for Civil and Environmental Engineers using AutoCAD Civil 3D. Students will be introduced to basic AutoCAD drafting techniques as well as learn the key features of Civil 3D that aid site development design and analysis. Topics covered will include existing conditions development and analysis using field collected survey data and GIS information,

watershed analysis, sewer and water line design, grading design, pipe network design and roadway corridor layout. 1 credit hour, 2 contact hours.

**CIVL 1961-01 CRN 75769      Intro to CEE**

Instructor: Thomas Zimmie

This one credit course acquaints freshmen with the disciplines of civil and environmental engineering. An allowable substitute for Engineering Processes, it is offered during the spring semester each year, in parallel with the capstone design courses taken by the seniors in civil engineering and environmental engineering. The mainstay of the course is a set of discussions about the work of civil and environmental engineers, based on a textbook. The discussions provide a forum for answering both general and specific questions about the disciplines. Ancillary activities include reviews of the reports prepared by the seniors, an AutoCAD workshop, a surveying workshop, a presentation about a world-class civil or environmental engineering project, and attendance at the oral presentations given by the seniors. 1 credit hour

**CIVL 6961-01 CRN 76171      Wind Engineering**

Instructor, Christopher Letchford, T F 8:00-9:50 AM

This course will develop understanding and integrate skills across the fields of fluid mechanics, meteorology, climatology, bluff-body aerodynamics, structural dynamics, code provisions for design, wind tunnel testing and damage documentation. Prerequisites: ENGR 2250, ENGR 2530 and CIVL 2670. 3 credit hours. Int in the MFA or PhD program. Cr: 3 Instr: Rolnick

**COGS-2960-01 CRN 76155      TOPICS IN COGNITIVE SCIENCE: HEROES OF THE HUDSON VALLEY.**

This course is devoted to the study of heroes of the Hudson Valley, from Washington and Henry Knox in the Revolutionary War (and before them of those who gave birth to the oldest technological university in the English-speaking world), to Melville in Troy and Pittsfield, to Edison, to contemporary greats, and to literally over a hundred others. The course is part history (particularly intellectual history), part cognitive science, and part the study of leadership and excellence. No prerequisites. Site visits are planned. 4 credits.

**COGS-4960-01 CRN 75033      TOPICS IN COGNITIVE SCIENCE: GAME DEVELOPMENT II.**

Game Development II is the culminating experience of the Game and Simulation Arts & Sciences degree. It is a studio course in which interdisciplinary groups of students (artists, designers, programmers)

develop an advanced, large-scale 3D digital interactive experience, to be evaluated at the annual GameFest symposium. Prerequisite: Game Development I. 4 crs.

**COGS-4961-01 CRN 76100      Programming for Artificial Intelligence and Cognitive Science**

This course is an introduction to research programming for Artificial Intelligence and Cognitive Science. The course will emphasize the use of LISP for AI and CogSci projects (e.g. adaptive agents, NLP, reinforcement learning, neural networks, experimental design, games, statistical analysis, etc.). This will be a project-oriented course with an emphasis on research.      4 credits.

Prerequisites: CSCI 1200

Instructor: Professor Veksler

**COGS-4962-01 CRN 76101      TOPICS IN COGNITIVE SCIENCE: ADAPTIVE ROBOTICS.**

This course is an introduction to research and development in Cognitive Robotics. This course will emphasize hands-on robotics programming, and will include an overview of various related topics from Cognitive Science and Artificial Intelligence (e.g. perception, attention, anticipation, memory and learning, goals, planning, etc). 4 credits. Permission of Instructor Only. Meets with CSCI-4975.

**COGS-4963-01 CRN 76156      TOPICS IN COGNITIVE SCIENCE: PERCEPTION AND ACTION.**

How do people navigate along a crowded sidewalk, reach for and pick up a glass of water, balance a tray of dishes, or type on a keyboard? How do highly skilled athletes, musicians, and dancers move with such efficiency and grace? What goes wrong when our ability to move becomes impaired and how can this ability be restored? Why is it so difficult to build machines to perform the same activities that most of us carry out effortlessly? This course is an introduction to the topic of perception and action, and will focus on the significance of perception, motor control, and perceptual- motor learning as they relate to the performance of routine and skilled tasks. We will (1) explore perception and action from information processing, computational, dynamical systems, and ecological perspectives, (2) review current empirical and computational research, and (3) learn about mathematical and computational tools used to build models and analyze data, and (4) consider some applications, including training, rehabilitation, human-machine interaction, and robotics. Permission of Instructor. Meets with COGS-6420 and PSYC-4960. 4 credits.

**COGS-4966/ 01 CRN 76376 & PSYC-4320/01 CRN 76377 Behavioral Neuroscience,**

Tuesday/Wednesday, 6-7:50, enrollment total 25;

instructor: Alicia Walf

**COGS 4968/01 CRN 76379 & PSYC 4969/01 CRN 76380 Stress and the Brain**

**instructor: Alicia Walf**

Course description: This course is a detailed examination of the stress response. Stress may simply be defined as any challenge to an individual's homeostasis, or balance. Although the stressor, or stimuli, causing the stress can be easily defined, the varied ways that the individual responds to such a stressor to restore homeostasis are of interest. There are a plethora of factors that play into the individual's physiological, endocrine, and behavioral stress response. This seminar course will explore the neurobiological underpinnings of the stress response, with particular focus on how stressors can alter affective and cognitive processing in the individual. Current research methods and findings will be explored in depth.

**COGS-4967/01 CRN 76381 PSYC-4968/01 CRN 76382**

**Introduction to Cognitive Neuroscience**

**instructor: Alicia Walf**

Course description: This course is an Introductory to Cognitive Neuroscience, which explores the cognitive and neural processes for vision, language, attention, motor control, navigation, and learning and memory. Basic neuroanatomy, functional imaging techniques, and behavioral measures of cognition, and the methods of research on the neural basis of cognition that are utilized, will be discussed. A focus will be on findings in non-perturbed subjects as well as those with neurological diseases/perturbations (e.g. Alzheimer's disease, Parkinson's disease, Huntington's disease, amnesia, and focal lesions from stroke).

**COGS-6961-01 CRN 73732      TOPICS IN COGNITIVE SCIENCE: ISSUES IN COGNITIVE SCIENCE.**

Each Wednesday features a different speaker, faculty, grad student, or undergraduate, discussing their research. Every other Wednesday the course meets with the undergraduate Minds & Machine program. On the other Wednesdays the graduate faculty and students meet to discuss work in progress, or newly published research papers. All participants are expected to present a minimum of once per semester. All are expected to read the papers and participate in the discussions. 2 crs.

**COGS-6964-01 CRN 75034      TOPICS IN COGNITIVE SCIENCE: COGNITIVE SCIENCE AND ECONOMICS.**

Noble Prize winner Douglass North once used about the same title for his speech (2004). Cognitive and experimental economics is a fast growing domain. It will cover game theoretical framework (Nash, Noble Prize in Economics, 1994), behavioral game theory (C. Camerer, 2001), standard decision theory (Savage, 1954), bounded rationality (Simon, Noble Prize in Economics, 1978), and psychology of decision making (Kahneman, Noble Prize in Economics, 2002), and much more recent developments. The instructor's approach is also introduced. Meets with PSYC-4966. 4 crs.

**COGS-6966-01 CRN 74478      TOPICS IN COGNITIVE SCIENCE: TOPICS IN INTERACTIVE BEHAVIOR.**

Is an advanced research seminar for students who are actively pursuing research in the area of interactive behavior. Each student will be required to create a reading list of new and classic research papers devoted to their area of study. Each will be required to collect empirical data and to create computational cognitive models of that data. Each student will meet once a week with the instructor for a 1-hr meeting. All students will be expected to participate in

a weekly research meeting where research and modeling issues are defined and discussed. In addition, all students will meet in a second weekly session devoted to reading and discussing recent and classic papers on interactive behavior. As part of this course, all students will be expected to attend and participate in the weekly Issues in Cognitive Science series. All students are expected to write up and submit the results of research conducted for this seminar to a conference or journal. 4 crs.

**COGS-6967-01 CRN 75630      TOPICS IN COGNITIVE SCIENCE: HUMAN-LEVEL INTELLIGENCE.**

Topics in cognitive models of human intelligence and human-level artificial intelligence will be covered. Readings and discussion will concentrate on a broad theme, begin with some foundational and historical perspective and then proceed to more recent work. Example topics include integrating cognitive models based on different computational formalisms, integrating reasoning and learning, metacognition and models of language use and acquisition. 4 crs.



**COMM-4961 CRN 76249            Electronic Portfolio Development**

This course is designed to introduce students to researching, designing, producing and distributing an electronic portfolio of their own work. Through readings, class discussions, and class projects focusing on use of Photoshop, Illustrator, Dreamweaver and Flash, the course will explore concepts and techniques in the design and publication of networked digital material. The course will help students develop the ability to create and present a networked portfolio of their work. **Prerequisite: COMM-2610** or permission of instructor. **Restricted to EMAC, COMM, eARTS, GSAS, DSIS, ARCH, and IT-COMM and IT-ARTS majors**

**COMM-6965 CRN 75059            Human-Media Interaction**

An advanced survey of the literature with regard to how the human mind has evolved and/or 'not' adapted to, interact with media and computers; how people socially respond to interactive environments; how media & interactivity create a sense of 'being there' and/or 'being together with someone,' and how properties of human cognition and affect (e.g., emotion, arousal, attention, memory, attitude) are influenced by the form, content, and use of media and computers. 4 credit hours

**CSCI-4961/01 CRN 75619            Web Systems Development**

This course involves a study of the methods used to extract and deliver dynamic information on the World Wide Web. The course uses a hands-on approach in which students actively develop Web-based software systems. Additional topics include installation, configuration, and management of Web servers. Students are required to have access to a PC on which they can install software such as a Web server and various programming environments.

Prerequisites/Corequisites: Prerequisites: CSCI 1200 or equivalent.

**CSCI 4962/01 CRN 73660            Computer Networking II**

Continue to play in a lab of over 200 routers, switches, firewalls, and wireless access points - the ultimate in hands-on networking. Configuration topics include: Spanning Tree, Inter-VLAN routing; Hot Standby Routing Protocol; Wireless LAN Controllers; Layer 2 Network Attacks; Voice VLANs. Extensive troubleshooting in advanced routing and switching topics. Students will complete the final two exams necessary to obtain their Cisco Certified Network Professional (CCNP) certification. Prerequisite: Computer Networking I or Networking Lab I. Same course as Networking Lab II.

**CSCI-4963/01-6963/01 CRN 75621/75622**  
**Intelligence**

**E-Commerce-Social Networks, and Collective**

The internet has transformed how people interact with each other, lowering the cost of communication, and enabling us to rapidly both discover and pass on new information. This transformation has had major impacts in how we conduct market transactions (think of eBay, Orbitz, or Amazon), how we maintain our social personae (Facebook, Twitter), and how we accumulate and produce knowledge for consumption (Wikipedia, Yelp). This course will cover theoretical foundations of e-commerce and social networks, as well as focusing on practical aspects of understanding how the design of online venues affects the interactions of participants and the success of the venue.

**CSCI-4964/01- 6964/01 CRN 75623/75624**

**Computational Biology & Bioinformatics**

This course is about computational methods for understanding biological systems at the molecular level. It introduces the main concepts in computational biology and bioinformatics, including sequence analysis, structure analysis, and systems biology. Topics of interest include sequence alignment, motif finding, phylogenetic trees, whole genome comparisons, protein structure prediction, gene expression analysis, with especial emphasis on the analysis of biological networks such as gene regulatory & signaling networks, and protein-protein interaction networks.

**CSCI 4965/01 CRN 73659**

**Computer Networking**

Also known as the “Cisco course”. Come play in a million dollar lab of routers, switches, firewalls, wireless network devices, all dedicated for student use. Students learn how to configure a Fortune 500 corporate network. Configuration labs include: Variable Length Subnetting, IPv6, Spanning-Tree, Virtual LANs, Network Address Translation, Wireless Technologies, Security Access Lists (Lock and Key, Reflexive, Time-based), Frame Relay and PPP. The second half of the course deals with in-depth routing: RIP, OSPF, EIGRP, BGP, Static, and Default. This is a hands-on lab course in which the emphasis is on doing. No Prerequisite. Same course as Networking Lab I.

**CSCI-4966/01 CRN 75625 VMware vSphere 4.1**

**Learn to install, configure, and manage VMware vSphere.**

In this VMware-authorized, hands-on course based on ESX/ESXi 4.1 and vCenter Server 4.1, you will learn to install, configure, and manage VMware vSphere™, which consists of VMware ESX/ESXi and VMware vCenter Server. You will spend approximately 60% of instruction time completing 25 hands-on labs.

Upon completion of this course, you can take the examination to become a VMware Certified Professional 4. You will master the following skills:

- Install and configure ESX or ESXi
- Install and configure vCenter Server components
- Configure and manage ESX/ESXi networking and storage using vCenter Server
- Deploy, manage, and migrate virtual machines
- Manage user access to the VMware infrastructure
- Use vCenter Server to monitor resource usage
- Use vCenter Server to increase scalability
- Use VMware vCenter Update Manager to apply ESX/ESXi patches

Use vCenter Server to manage higher availability and data protection

### **CSCI-4972/01 CRN 75896 Computer Vision Applications in Environmental Monitoring**

This course will explore the application of computer vision techniques to problems in environmental monitoring, using data taken from sensors as diverse as outdoor webcams and unmanned underwater submarines. The course will discuss the full spectrum of challenges, starting with data acquisition and ending with interpretation. While students will be responsible for gathering and presenting background material, the primary emphasis of the course will be semester-long projects. Pre-requisite: background or prior course work in computer vision or a closely-related field.

### **CSCI-6972/01 CRN76265 Computer Vision Applications in Environmental Monitoring**

This course will explore the application of computer vision techniques to problems in environmental monitoring, using data taken from sensors as diverse as outdoor webcams and unmanned underwater submarines. The course will discuss the full spectrum of challenges, starting with data acquisition and ending with interpretation. While students will be responsible for gathering and presenting background material, the primary emphasis of the course will be semester-long projects. Pre-requisite: background or prior course work in computer vision or a closely-related field.

### **CSCI-4967/01 CRN 75100 Network Security/Voice Lab**

This is a hands-on, lab course that uses the million dollar Cisco lab on campus. Security configurations include: IP Spoofing attacks, Man-in-the-Middle attacks, Denial of Service (DoS) attacks, NMAP, Perimeter defense, router authentication using AAA, TACACS+. and Radius, Secure SNMP, NTP, and SSH. Layer 2 attacks will include VLAN Hopping, Switch spoofing, Double Tagging, DHCP Server Spoofing, and CAM Table Overflow attacks. Wireless Security will look at extensible authentication protocols such as EAP-MD5. Students will also design and implement IPsec site-to-site VPNs. Voice configurations will include: hunt groups, call park, call pickup, paging groups, paging/intercom, and Music on Hold. Other topics will include PSTN, H.323, MGCP, SIP, and SCCP protocols. All the topics necessary to pass the Cisco CCNA-Security and CCNA-Voice exams will be covered.

Prerequisite: Computer Networking I or Networking Lab I.

**CSCI-4971/01 – CSCI 6968/01 CRN 75785/76144      Cryptography & Network Security I**

Instructor: Bülent Yener    3 credits    Meets W 10:00 – 12:50

This is both a theoretical and hands-on course on cryptography and network security. Topics include classical cryptography, algebra, number theory, modern cryptography, MAC and HASH algorithms, public key cryptography, digital signatures, network security protocols, and network security tools.

**CSCI-6970/01 CRN 75312      Current Challenges in Cyberinfrastructure**

Instructor: Jim Myers

MR 2:00-3:20

3 credits

max enrollment: 30

This course will explore the breadth of what is meant by cyberinfrastructure and examine the state of the art and open challenges. In addition to discussion of high-performance computing; data, analysis, and visualization; and virtual organizations, the course will touch on the nature of infrastructure, the revolutionary potential of cyberinfrastructure to enable research, education, and societal application, the concept of socio-technical solutions, and designs to provide end-to-end support of the scientific lifecycle.

**CSCI 4974/01 CRN 76105      Programming for Artificial Intelligence and Cognitive Science**  
**Cross listed with COGS 4961**

This course is an introduction to research programming for Artificial Intelligence and Cognitive Science. The course will emphasize the use of LISP for AI and CogSci projects (e.g. adaptive agents, NLP, reinforcement learning, neural networks, experimental design, games, statistical analysis, etc.). This will be a project-oriented course with an emphasis on research.    4 credits.

Prerequisites: CSCI 1200

Instructor: Professor Veksler

**CSCI 4975/01 CRN 76106      Adaptive Robotics**  
**Cross listed with COGS 4962**

This course is an introduction to research and development in Cognitive Robotics. This course will emphasize hands-on robotics programming, and will include an overview of various related topics from

Cognitive Science and Artificial Intelligence (e.g. perception, attention, anticipation, memory and learning, goals, planning, etc). 4 credits

Prerequisites/Enrollment: Permission of Instructor Only. Professor Vaksler

**ENVE 4961/6961-01 CRN 76175/76176                      Microbial Fuel Cells**

Instructor: Venkata Gadhamshetty, M R 8:30-9:50 AM

Microbial fuel cells (MFCs) are electrochemical devices that use biocatalysts to generate electricity from biomass. This course encompasses following key aspects relevant to MFCs: Fundamentals of biology and electrochemistry, materials, architecture, electrochemically active biofilm, reactor design, and electron transfer theories.

**ITWS-4961 CRN 76044 IT For Arts and Performance**

This course will cover ITWS based, multi-modal systems (systems that address human perception and expression) and standards used within the arts and for immersive environments. Topics will include discussion of control vs. recording vs. generative systems and their relationship to one another in a facility such as EMPAC. An emphasis will be placed on the practical issues faced by IT professionals in arts applications and in immersive environments (visualization etc.). Students will take on a project of their own design to interactively control some part of an EMPAC system with a connected computer. Students will also be given the opportunity to interact in a meaningful way with resident EMPAC artists/researchers, and to participate in “basic training” on IT, lighting, video, audio and rigging systems operation at EMPAC. Prerequisites: Proficiency in a “real-time-capable” programming language (Java, C++, Max/MSP at al.).

*4 credits*

Instrs. – Curtis Bahn and Eric Ameres

**ITWS-4962/ITWS 6961 CRN 76045/76048                      X-Informatics**

In the last 2-3 years, Informatics has attained greater visibility across a broad range of disciplines, especially in light of great successes in bio- and biomedical-informatics and significant challenges in the explosion of data and information resources. Xinformatics is intended to provide both the common informatics knowledge as well as how it is implemented in specific disciplines, e.g. X=astro, geo, chem, etc. Informatics' theoretical basis arises from information science, cognitive science, social science, library science as well as computer science. As such, it aggregates these studies and adds both the practice of information processing, and the engineering of information systems. This course will introduce informatics, each of its components and ground the material that students will learn in discipline areas by coursework and project assignments.

*3 credits*

Instructor – Peter Fox

**LITR 2961 CRN 74480 Creative Writing: Poetry**

This course is for students with little or no experience in creative writing. Readings introduce traditional and modern aspects of Poetry. Students practice writing in multiple forms in order to master the use of figurative language and other components of the craft. Various assignments are designed to develop voice, personal style, and the ability to connect to an audience. Through work in peer writing groups, students gain experience in performance and guidance toward professional publication. 4 credit hours.

**LITR-2962-01 CRN 74481 Creative Writing: The Short Story**

This course is for students with little or no experience in creative writing. Students learn to work with aesthetic properties unique to the short prose form, to bring themes to life and create believable fictional worlds. Readings of works by classic and contemporary authors provide craft models from which to develop their own unique styles and voices. Through work in peer writing groups, students gain experience in performance and guidance toward professional publication. 4 credit hours.

**LITR-2963/01 CRN 75783 Creative Non-Fiction**

Narrative non-fiction is the focus of this section of creative writing, with brief forays into the craft essay and poetry. Student writers will create from their own experience and knowledge while experimenting with a variety of approaches and forms. As writers do, we will use peers as a first audience, revise extensively, and read the work of accomplished authors, with an emphasis on contemporary authors. This is a writing intensive course. 4 credit hours.

**MANE 6961/01 CRN: 75721 Mems Design**

This course covers the fundamental basis of MEMS with emphasize on electro-mechanical transducers. The students will be familiarized with microfabrication techniques and microscale phenomena important to device fabrication such as capillarity and adhesion. One of the common tools for modeling electro-mechanical transducers, lumped element circuit is introduced. Mechanical properties and mechanical behavior of typical MEMS structures is discussed. A number of sensing and actuation mechanisms will be introduced and several case study will be carried out including electrostatic and magnetic actuators, accelerometer, digital micromirror device, grating light valve, RF MEMS, piezoresistive and piezoelectric sensors.

T & F 10-11:30

**MANE 6962 CRN 75746**

**Spacecraft Attitude Dynamics**

Riccardo Bevilacqua-

Enrollment 30 students

Wednesday-12-2:20

"The Spacecraft Attitude Dynamics course introduces the principles for the analysis and design of spacecraft attitude determination and control systems (ADCS). Attitude kinematics representations and attitude dynamics for a rigid-body spacecraft are presented. Linearization of a spacecraft's attitude dynamics equations is introduced. Spacecraft attitude stability and passive stabilization methods are discussed, as well as environmental torques and their potential exploitation. Finally, elements on the dynamics of spacecraft with flexible appendages will be given. The course implies bi-weekly homework, on developing Simulink software for spacecraft attitude simulations, and a final written exam."

**MATH-6590 CRN 76222**

**Hyperbolic Equations**

This course will cover material from the theory of Hyperbolic systems of equations. It will include existence, uniqueness, and propagation of singularities for Hyperbolic systems of equations. The theory of weak solutions will be presented along with applications to Maxwell's and Einstein's equations.

Prerequisites: Include a background in PDE's , ODE's, and analysis at the undergraduate level.

Cr: 4

Instr: Isaacson, David

Scheduled: TBA

Enrollment: 30

**MATH-6790 CRN 76221**

**Finite Element Methods**

This two credit seminar course will focus on discontinuous Galerkin methods, a class of high order finite element methods, with applications in areas such as the advection equation, the elliptic equation, heat conduction, gas dynamics etc. Algorithm formulation, analysis and implementation will be addressed

Prerequisites: Math-4820 or equivalent, preferably having basic knowledge of finite element methods.

Cr: 2

Instr: Li, Fengyan

Scheduled: 2:00 – 3:50 pm

Enrollment: 30

**MGMT 6960/01 CRN 76200****Topics in Accounting & Finance II (PhD)**

This is an advanced PhD level course focuses on the academic research on financial accounting, capital markets, earning management, capital budgeting, financing strategies and related accounting and finance related topics. It broadly encompasses a number of key research topics in accounting and finance emphasizing the theoretical underpinnings and the empirical frontiers in respective areas. This is an interactive workshop course and attempts to develop skills in developing research designs, building theories, using appropriate empirical methodology, and effectively communicate them.

**MGMT 6962 CRN 76192****Auditing and Regulation Compliance**

This course focuses on theory and practices of the audit of financial statements. It introduces the current auditing standards related to the examination of financial statements by an independent auditor. The course would also introduce the audit process, starting from the stage of accepting an audit engagement to the stage of completing the audit. During the audit process, the course would teach how to identify, evaluate and collect audit evidence. It would also expose the students to different types of audit opinions. In addition, the course will introduce ethical responsibilities of auditors and current issues and challenges facing the auditing profession. Students will also know assurance services and how they open up opportunities for auditors in the changing environment.

**MGMT 6960 CRN 76200****Topics in Accounting & Finance II (PhD)**

This is an advanced PhD level course focuses on the academic research on financial accounting, capital markets, earning management, capital budgeting, financing strategies and related accounting and finance related topics. It broadly encompasses a number of key research topics in accounting and finance emphasizing the theoretical underpinnings and the empirical frontiers in respective areas. This is an interactive workshop course and attempts to develop skills in developing research designs, building theories, using appropriate empirical methodology, and effectively communicate them.

**MGMT 6966/01 CRN 76198 Bankruptcy Management**

This course deals with financial distress and bankruptcy of corporations in the U.S. It covers analysis of public and private workouts and Bankruptcy under Chapter 11 as well as features such as Debtor-in-possession financing, reorganization plans, and corporate governance. Firm analysis and firm valuation issues in Chapter 11 and post-Chapter 11 will be covered.

**MGMT 6968/01 CRN 76199****Organizational Behavior Theory and Research**

This course is designed to introduce students to basic theories and principles in organizational behavior research. Students will investigate important theories, concepts, and research methods in behavioral

research, with an emphasis on developing an understanding of how research in the field of organizational behavior is conducted and how further contributions to this field might be made. Through in-depth discussions of selected research articles, students will gain some proficiency in framing meaningful research questions and deriving testable hypotheses.

### **MTLE 4962/01 CRN 75745 Fuel Cell Fundamentals**

Course Instructors: Dan Lewis (MS&E), [lewisd2@rpi.edu](mailto:lewisd2@rpi.edu), 276-2297

Level: Undergraduate Course Credits: 3 Grading: Class project

#### Course Lecture Topics:

1. Thermodynamics of Electrochemistry
2. Kinetics of Electrochemistry
3. The Electrochemical Series
4. Fundamentals of Fuel Cell Materials
5. Fuel Cell Types and Operating Range
6. Fundamentals of Fuel Cell Assembly and Operation
7. Degradation of Fuel Cells and Stacks

#### Course Laboratory Project:

1. Assemble and Test a Fuel Cell
2. Record Performance Data

#### Course Project:

1. Work with ASM professionals and website designers to add content to the “City of Materials”
2. Develop “Fuel Cell Textbook” aimed at teaching high-school and middle school students the basics of fuel cells
3. Deliver content to website designers and test implementation for usability.
- 4.

### **PHIL-2960-01 CRN 75631 Topics in Philosophy: Democracy as Democratism.**

Resolved: the defining features of democracy characterize a social way of life and outlook, not a form of government. If so, most practices associated with democracy are undemocratic or anti-democratic including the (US) federal Republic and Constitution, voting by majority rule, presidential leadership (an independent chief executive), patriotism and good citizenship, major political parties and ideologies (liberal-Democrat, conservative-Republican), war policy (just or otherwise) a military pledged to government or constitution not society, and public school curricula in history, citizenship, and civic engagement that teach otherwise. Resolved further: early Americans adhered to these propositions. We will debate and evaluate such notions pro and con, considering ways to further democratize social institutions, distinguishing America from the US. Meets with PSYC-2961. 4 crs.

**PHIL 2961/01 CRN 76318            TOPICS IN COGNITIVE SCIENCE: HEROES OF THE HUDSON VALLEY.**

This course is devoted to the study of heroes of the Hudson Valley, from Washington and Henry Knox in the Revolutionary War (and before them of those who gave birth to the oldest technological university in the English-speaking world), to Melville in Troy and Pittsfield, to Edison, to contemporary greats, and to literally over a hundred others. The course is part history (particularly intellectual history), part cognitive science, and part the study of leadership and excellence. No prerequisites. Site visits are planned. 4 credits.

**PHIL-4960-01 CRN 76158            Topics in Philosophy: Topics in Nietzsche.**

Nietzsche is a philosopher often quoted (and misquoted), a philosopher perhaps more widely discussed than carefully read. This course is intended for students who want to do extensive and systematic reading of Nietzsche and the rich secondary scholarship that has developed around his work. Topics will include: Nietzsche and art, Nietzsche and eastern religion, Nietzsche and science. If nothing else, the course will dispel the common notion that Nietzsche is a 'nihilist'. 4 crs. Prerequisite: 1 philosophy course. Permission of Instructor.

**PSYC-2960-01 CRN 75035            Topics in Psychology: Thinking.**

The contents covered are deductive reasoning, inductive reasoning, judging probability, decision making, and rationality analysis. Psychology of reasoning and decision making studies how people reason and decide, while logic and game theory tell us what are reasoning and decision making. Both theoretical conceptual architectures and empirical evidence will be introduced. Meets with PSYC-4967. 4 crs.

**PSYC-2961-01 CRN 75632            Topics in Psychology: Democracy as Democratism.**

Resolved: the defining features of democracy characterize a social way of life and outlook, not a form of government. If so, most practices associated with democracy are undemocratic or anti-democratic including the (US) federal Republic and Constitution, voting by majority rule, presidential leadership (an independent chief executive), patriotism and good citizenship, major political parties and ideologies (liberal-Democrat, conservative-Republican), war policy (just or otherwise) a military pledged to government or constitution not society, and public school curricula in history, citizenship, and civic engagement that teach otherwise. Resolved further: early Americans adhered to these propositions. We will debate and evaluate such notions pro and con, considering ways to further democratize social institutions, distinguishing America from the US. Meets with PHIL-2960. 4 crs.

**PSYC 2962/01 CRN 76318            TOPICS IN COGNITIVE SCIENCE: HEROES OF THE HUDSON VALLEY.**

This course is devoted to the study of heroes of the Hudson Valley, from Washington and Henry Knox in the Revolutionary War (and before them of those who gave birth to the oldest technological university in the English-speaking world), to Melville in Troy and Pittsfield, to Edison, to contemporary greats, and to literally over a hundred others. The course is part history (particularly intellectual history), part cognitive science, and part the study of leadership and excellence. No prerequisites. Site visits are planned. 4 credits.

**PSYC-4960-01 CRN 76157      Topics in Psychology: Perception and Action.**

How do people navigate along a crowded sidewalk, reach for and pick up a glass of water, balance a tray of dishes, or type on a keyboard? How do highly skilled athletes, musicians, and dancers move with such efficiency and grace? What goes wrong when our ability to move becomes impaired and how can this ability be restored? Why is it so difficult to build machines to perform the same activities that most of us carry out effortlessly? This course is an introduction to the topic of perception and action, and will focus on the significance of perception, motor control, and perceptual- motor learning as they relate to the performance of routine and skilled tasks. We will (1) explore perception and action from information processing, computational, dynamical systems, and ecological perspectives, (2) review current empirical and computational research, and (3) learn about mathematical and computational tools used to build models and analyze data, and (4) consider some applications, including training, rehabilitation, human-machine interaction, and robotics. Permission of Instructor. Meets with COGS-6420 and COGS-4963. 4 credits.

**PSYC-4964-01 CRN 74758      TOPICS IN PSYCHOLOGY: PSYCHOLOGY AND GAMES.**

Board games and video games have been the topic of many scientific studies, and have been. This course covers topics such as perception, memory, problem solving and decision making, development, intelligence, emotions, motivation, education, and neuroscience as they relate to the understanding and development of games. . It also critically discusses how current theories of expertise as they relate to games. Finally, it evaluates the extent to which an understanding of games and game behavior, have a wider relevance for the understanding of human psychology in general. 4 crs.

**PSYC-4966-01 CRN 75036      Topics in Psychology: Cognitive Science and Economics.**

Noble Prize winner Douglass North once used about the same title for his speech (2004). Cognitive and experimental economics is a fast growing domain. It will cover game theoretical framework (Nash, Noble Prize in Economics, 1994), behavioral game theory (C. Camerer, 2001), standard decision theory (Savage, 1954), bounded rationality (Simon, Noble Prize in Economics, 1978), and psychology of decision making (Kahneman, Noble Prize in Economics, 2002), and much more recent developments. The instructor's approach is also introduced.

Meets with COGS-6963. 4 crs.

**PSYC-4967-01 CRN 75037      Topics in Psychology: Thinking.**

The contents covered are deductive reasoning, inductive reasoning, judging probability, decision making, and rationality analysis. Psychology of reasoning and decision making studies how people reason and decide, while logic and game theory tell us what are reasoning and decision making. Both theoretical conceptual architectures and empirical evidence will be introduced.

Meets with PSYC-2960. 4 crs.

**STSS 1961/01 CRN 73704    STSH 1961/01 CRN 76120      Sustainability Debates**

Dean Nieuwma

Concerns about environmental sustainability have provoked intense and complicated political debate, which highlight a series of challenges and opportunities for environmental decision making. This course analyzes the many issues involved in advancing sustainability. We will debate several different sustainability topics, including alternative energy, pollution and health, and food and water resources. We also will develop proposals for sustainability projects that respond to the challenges and opportunities identified. Along the way, we will explore how ideas and techniques from the humanities, arts, and social sciences can be used to advance knowledge about sustainability as well as how they might inform practical action.

**STSS 4964/01 CRN 75592    STSH 4964/01 CRN 75591      Consumer Culture**

This course explores consumption through the lens of culture. Is there such a thing as consumer culture? If so, what is it? What are its roots? Its consequences? Alternatives? In viewing documentaries and reading the work of anthropologists, historians, and religious scholars, we will focus on consumer culture in the US and UK including recognition of the global locations in which our consumer goods are made. Topics include buying and selling, shopping, retail, manufacture, material culture, pricing, consumer goods, disposal, kinship, identity, exchange, and advertising, with attention paid to differences in race, class, and gender.

**STSS 4969/01 CRN 76121      Environmental Sociology**

This course will survey environmental sociology, emphasizing the diversity of contemporary theories of society-nature relations, critical discussions of conventional views, alternative perspectives on the role of science and/in policy, and social movements. The course will explore the many of the historical dynamics of ecological transformation and common responses to ecological crises. Further, social and natural scientific assumptions about environmental conditions, change and crisis will be reviewed.

Readings reflect the exciting, multidisciplinary character of environmental sociology and are taken from sources in Sociological, Geographical, History, Philosophy, Economics, Ecological Science and Social Movement literatures. Prerequisite: <<http://www.sts.rpi.edu/pl/courses-s20?siteid=&pageid=&cn=STSS-2300>> STSS-2300 <<http://www.sts.rpi.edu/pl/courses-s20?pageid=308&siteid=20&cn=STSS-2300>> or permission of instructor.

**STSS 4966/01 75595    STSH 4967/01    CRN 75596      Globalization and Development**

This course surveys the actors, processes, and proposed solutions to the problems of environment and development. The theory and practice of three main themes are explored: the background and context of environment and development in North and South; politics and economic development in the South; and the problems and prospects for sustainable societies in North and South. Prerequisite:

<<http://www.sts.rpi.edu/pl/courses-s20?siteid=&pageid=&cn=STSS-2300>> STSS-2300

<<http://www.sts.rpi.edu/pl/courses-s20?pageid=308&siteid=20&cn=STSS-2300>> or permission

**STSS 6960/01 CRN 76127      Pro Seminar**

This seminar is designed to help you develop the professional skills needed for a successful career as a scholar. The major themes covered in the course include research design and proposal writing (e.g. course project, HASS, dissertation), conference presentations and job talks, writing for publication, exams and literature reviews, and probing and assessing the work of others. The course will also provide space for reflecting on life in the Department, including administrative and intellectual culture and its impact on student learning.

**STSS 4968/01 CRN 75627    STSH 4968/01 CRN 75627      Sociology of Religion**

This course is an introduction to religion as a social and cultural phenomenon. Religion and its attendant rituals, emotions, and practices, including faith and belief, are treated as social and cultural constructions; this means that they are manufactured by human beings. Religions are created in the same fashion as all other human inventions: through everyday social interactions in mundane social activities as human beings go about their lives striving for survival, growth, and development. The resources for the creation of religions and gods are the resources of the everyday social, cultural, and material worlds we are all born, live, and die in.

**STSS 4961/01 CRN 75027**

**Oil Politics**

**TF 12:00-1:50**

Oil undergirds and drives contemporary societies. In this course, we will map the ways we depend on oil, the problems associated with oil, and alternative sources of energy. In process, we will extend our thinking about the matrix of problems that make environmental sustainability both difficult, and an urgent priority. Throughout, we will analyze and try to produce effective environmental communication.

**STSS 6962/01 CRN 76129**

**Asthma Politics Friday, 2-5.**

Asthma incidence has increased dramatically in recent years, both in the United States and globally. This course provides students with diverse orientations the opportunity to develop a research project focused on asthma, which will contribute to The Asthma Files, an electronic archive designed to support collaboration among researchers while advancing insight into asthma, politics, and effective modes of intervention.

The course will enroll students in a collaborative, social science and humanities research process that enhances understanding of the matrix of factors (social, economic, cultural, political, biological, geographic, etc) that shape complex problems (such as asthma).

**WRIT-4960 CRN 75677 /WRIT-6960 CRN 76287 Writing in Organizations**

**Prof. James Zappen**

Writing in Organizations prepares students to design effective memos, reports, and Web pages for audiences both within and outside organizations, including organizational decision makers, clients, and prospective customers. The course will help engineers, scientists, managers, architects, and designers to create documents that reflect organizational problem-solving and decision-making processes, so that writers can help not only to inform but also to guide and shape these processes for decision makers, clients, and customers, thereby helping them to make better choices and decisions. Memos and reports will follow conventional memo and report formats. The course will include an introduction to some Web-design principles and practices. But the Web pages will be either Web-based or paper-based, via planning mechanisms such as storyboards, based upon students' experience and preferences. Cross-listed. Students may not obtain credit for both courses. 4 or 3 credit hours.

**WRIT-4962/WRIT-6962 CRN 75755/76255**

**Writing for Promotion and Marketing**

Students will learn to write in a concise, meaningful, persuasive and informative way in an effort to promote their skills, products, services or concepts. They will produce a variety of material such as press releases, newsletters, talking points, speech bullets, and feature stories for businesses related to the products and services chosen. The class will compare and contrast good and bad marketing, good and bad writing, research successful promotional campaigns and participate in lively class discussions. This

course work will focus on clean, captivating motivating and purposeful writing within the context of a variety of public relations venues. Students will become adept at writing for their target audiences and be able to understand the process involved in writing good effective marketing material. This course satisfies the Institute's Communication Intensive requirement. Cross-listed. Students may not obtain credit for both courses.

4 or 3 credit hours.