DOWNLOAD PDF DUQUESNE UNIVERSITY MATH 215 SYLLABUS

Chapter 1 : Computational Mathematics

University Mathematics Core Courses. UCOR Problem Solving with Creative Math: 3 cr. This course provides an exploration of mathematics as a science with an emphasis on problem solving techniques.

Tips on interpreting your midterm grade can be found at http: Quizzes, homework, exams Quizzes: The quizzes will be given during your regular lecture time on randomly chosen days. They will typically consist of one or two questions bases on recent material with the purpose of keeping you involved and active in the lectures and letting you know if you are following the concepts. Grading scheme of a quiz is based on 0, 1, 2 points for each problem. It will be graded by the instructor, and returned in lecture or your problem session. Remember that quizzes will also be used for your attendance check. Homework for the course is the same for all sections. There are two types of homework: Both are mandatory and contribute to your final grade. MyMathLab homework consists of a selection of problems for a particular section of the book. To receive full credit for an assignment for a particular section, you must complete the assignment by the end of day of the second lecture after the date when this section is listed in an online schedule under the Schedule link on this page. You do not need a CourseID. To sign up, you will need a MyMathLab access code, see section Textbook for details. Please use a desktop computer or a laptop to do your MyMathLab homework. Wolfram CDFPlayer is installed on the stationary computers in the library and in the computer labs on campus. You can use these computers to do your MyMathLab homework. Written homework assignments will be assigned weekly by the course coordinator in the online system Crowdmark. These written problems will generally be more challenging than the MyMathLab homework problems and will require you to show your full work. The first written homework will be assigned on Wednesday of week 1 and due on Thursday of week 2. The deadlines for the subsequent homework assignments will be indicated on the homework. You will have to scan your solutions and submit them to the Crowdmark online system before the deadline. The instructions on how to do that are available on the Blackboard site in the section Course Documents. No late homework will be accepted. We recommend that you do MyMathLab assignment before taking on the more involved written homework problems. One lowest or missing written homework score and 3 lowest or missing MyMathLab homework scores will be dropped from your final grade at the end of the semester. Two midterms will be given on Thursdays of weeks 6 and 10 of the semester, and one final on the week following the last week of classes. Midterm 1 will include Sections The final exam is cumulative and includes material from the entire course. Updates on time schedules, room assignments and preparation materials can be found on this page under the exams link. Make-ups can be given to students that comply with the Excused Absence Policy above for the day of the exam. Policy on re-grading midterm exams and homework: After receiving your graded midterm exam or a homework, you are recommended to review the grading. You must explain clearly why you think your work deserves more points and what grading mistakes have been made. Requests without justification will not be honored. Your instructor will compare the grading with the grading scheme, and correct the grading, if justified. All requests to review the grading of exams or homework must be made within two weeks from the day when the link to your graded homework or exam is sent to you via Crowdmark. Calculators The use of any electronic devices with computing capabilities is prohibited during exams and quizzes. Academic Integrity Policy As an academic community, UIC is committed to providing an environment in which research, learning, and scholarship can flourish and in which all endeavors are guided by academic and professional integrity. All members of the campus community - students, staff, faculty, and administrators - share the responsibility of insuring that these standards are upheld so that such an environment exists. Instances of academic misconduct by students will be handled pursuant to the Student Disciplinary Policy: Disability Policy The University of Illinois at Chicago is committed to maintaining a barrier-free environment so that students with disabilities can fully access programs, courses, services, and activities at UIC. Religious Holidays Students who wish to observe their religious holidays shall notify the faculty member by the tenth day of the semester of the date when they will be absent unless the religious holiday is observed on or before the tenth day of the semester. The faculty member shall make every

reasonable effort to honor the request, not penalize the student for missing the class, and if an examination or project is due during the absence, give the student an exam or assignment equivalent to the one completed by those students in attendance. Freedom from discrimination is a foundation for all decision making at UIC. Students are also urged to read the document "Public Formal Grievance Procedures". Information on these policies and procedures is available on the University web pages of the Office of Access and Equity:

Chapter 2 : Transfer Equivalency | Millersville University

Students may also satisfy the University core mathematics requirement by completing a Calculus I course or sequence (Math , , , or), Fundamentals of Statistics (Math), or Introduction to Biostatistics (Math).

Topics include real numbers, factoring, rational expressions, exponents and radicals, solving equations and inequalities including linear, quadratic, fractional, radical, and absolute value , non-trigonometric functions linear, polynomial, rational, root, absolute value, exponential, logarithmic, composition , and graphing. Not sufficient preparation for Math - Calculus I. Initial topics of MATH with topics from algebra and trigonometry integrated as needed. Topics include real numbers, factoring, rational expressions, exponents and radicals, solving equations and inequalities including linear, quadratic, fractional, radical, and absolute value , functions including linear, polynomial, rational, root, absolute value, exponential, logarithmic, trigonometric, composition , and graphing. Prepares students for Math - Calculus I. Limits, continuity, and differentiation of algebraic, exponential and logarithmic functions. Sum, product, quotient and chain rule formulas for differentiation. Logarithmic and implicit differentiation. Graphing using the first and second derivative. Application of the derivative to optimization and related rates problems. Indefinite and definite integrals. Application of the definite integral to area problems. Remaining topics of MATH with topics from algebra and trigonometry integrated as needed. Limits, continuity, and differentiation of algebraic, exponential, logarithmic, trigonometric, and inverse trigonometric functions. Substitution rule for integration. Applications of integration areas, volume, work, arc length, surface area , additional techniques of integration, improper integrals, infinite sequences and series, including tests of convergence, power series, Taylor and Maclaurin series. Exploratory data analysis and statistical inference including graphical summaries of data, sampling distributions, confidence intervals, and hypothesis testing. Sets, functions, relations, partial order, methods of propositional logic, introduction to predicate logic, counting, recurrence relations, asymptotic analysis, techniques of proof writing including induction. Computational aspects of systems of linear equations, matrix operations, determinants, vector spaces and subspaces, linear transformations, change of basis, eigenvalues and eigenvectors, diagonalization, and orthogonality. Parametric equations, polar coordinates, calculus of functions of several variables and vector-valued functions, including double and triple integrals using various coordinate systems. Data classification and experimental design, graphical summaries of data, descriptive statistics, basic probability concepts, probability applications. Evidence of college level algebra skills. An introduction to higher-level mathematics. Topics include mathematical logic, sets, relations, functions, number systems and countability. The course emphasizes mastery of proof writing techniques including conditional, biconditional, contradiction, induction, set-theoretic, and existence and uniqueness proofs. Univariate and multivariate probability distributions of discrete and continuous random variables, mathematical expectation, limit theorems, random variable transformations, moment generating functions. Sampling distributions of random variables, confidence intervals, and hypothesis testing for one and two sample settings. ANOVA, simple linear regression, estimation techniques, properties of estimators, likelihood ratio test. Linear systems, interpolation, functional approximation, numeric differentiation and integration, and solutions to non-linear equations. May be counted as either mathematics or computer science, but not both. Theoretical and computational aspects of systems of linear equations, matrix operations, determinants, vector spaces and subspaces, linear transformations, change of basis, eigenvalues and eigenvectors, diagonalization, and orthogonality. Includes theorems and proof-writing. Divisibility, congruences, quadratic residues, Diophantine equations, and arithmetic functions. First-order ordinary differential equations, theory and solutions of higher order linear ordinary differential equations, the Laplace transform, numerical solutions of differential equations, applications to physical sciences and engineering. TThis course begins with a review of inferential statistics. Emphasis on data collection methods, stating hypotheses, confidence intervals and bootstrapping methods for estimating parameters are introduced. Both traditional and re-sampling methods are demonstrated for testing hypotheses. Additional topics covered are graphical methods for exploring distributions and determining outliers, 1-way and 2- way analysis of variance models using a linear models approach, and linear

and multiple regression methods. JMP software is used for demonstrating methods. Euclidean and Non-Euclidean geometry from both the synthetic and metric axiomatic approach. Topics include two-sample hypothesis testing, analysis of variance, correlation methods, simple linear regression, multiple regression, logistic regression, chi-square tests, and nonparametric statistical procedures. Solution and discussion of problems from the Putnam Examination and other sources. Completion of or concurrent enrollment in MATH or permission of instructor. Multicultural survey of the history of mathematics from the development of number systems to the development of calculus. Contributions of ancient Greek and western mathematics are emphasized, but those of Egyptian, Babylonian, Islamic, Hindu, and Chinese cultures are also discussed. A variety of theoretical methods that are useful for general problem-solving in advanced science and engineering courses: The course will provide an introduction to the background of operations including example problems and a brief history. An extensive discussion of the theory and application of linear programming will follow. Other topics will include nonlinear programming, continuous and discrete probability models, dynamic programming, game theory and transportation and network flow models. An introduction to algebraic structures with emphasis on groups, including subgroups, abelian and cyclic groups, permutation groups, cosets, and quotient groups, as well as homomorphisms and isomorphisms. A deeper examination of algebraic structures including rings, ideals, integral domains, fields, and other selected topics. Properties of real numbers, cardinality, sequences and series, properties of sets, functional limits and continuity. A continuation of MATH W including differentiation, sequences and series of functions, integration theory and advanced topics in analysis. The complex number plane, analytic functions, integration of complex functions, sequences and series, and conformal mappings. Topological spaces, homeomorphisms, connectedness, compactness, regular and normal spaces, metric spaces, convergence, and separation axioms. Desing and Anaylsis 3 cr. This course covers the basic and advanced elements involved in the design of a clinical trial. Topics include types and properties of clinical trials, ethical issues, randomization procedures, sample size estimation, baseline assessment options, compliance, and dealing with missing data. Statistical topics include linear model analysis, longitudinal data analysis, stratified data analysis, multiple comparisons and multiple endpoints, covariate adjustment, subgroup analyses, adaptive designs, non-inferiority analyses and methods of imputation. Internship suitably related to the program as determined by the Faculty Advisor and dependent on the approval of the Department. May be repeated for a total of up to three credits. Topics selected in consultation with the advisor. This course provides an exploration of mathematics as a science with an emphasis on problem solving techniques. Mathmatical literacy is addressed through group work, research, and presentations. Topics include basic elements of statistics and probablilty, number theory, general mathematical lawa, logic, Venn diagrams, and graph theory. Solutions to problems are provided and students attempt to generalize the solutions and construct mathematical formulas. Students are introduced to the contributions of mathematics to culture in the form of traditional and ancient mathematical puzzles and theorems. Students may also satisfy the University core methematics requirement by completing a Calculus I course or sequence Math , , or , Fundamentals of Statistics Math , or Introduction to Biostatistics Math

Chapter 3 : Carlow University | Pittsburgh, PA

MATH Dept. Info Duquesne University of the Holy Spirit (Duquesne University)'s MATH department has 20 courses in Course Hero with documents and 5 answered questions.

In addition, the College faculty have set other specific educational outcomes deemed critical for success as professional communicators. These additional educational outcomes for journalism majors are: Journalism graduates will demonstrate proficiency in critical thinking skills, writing and reporting, and an understanding of basic production skills, allowing them to produce news stories and multimedia projects. Graduates will be adequately prepared to either work in the field or pursue advanced educational opportunities. Journalism graduates will demonstrate a mastery of written and spoken communications, an understanding of the technologies of print, television and digital media, and knowledge and applications of these skills in their chosen careers. Journalism graduates will demonstrate an understanding of how to serve diverse publics in their reporting and producing. Journalism graduates will demonstrate knowledge of media ethics, law and regulation. Journalism graduates will demonstrate specialized knowledge of news media interactions with various critical publics, including but not limited to: Journalism graduates will learn to work as collaborative teams to solve problems, create strategies and produce content across media platforms. Journalism graduates demonstrate the ability to engage an audience using social media networking and analytics tools. Examines the relationship between media, culture and society, with emphasis on the history, structure, and organization of the mass media. This course is designed to help College of Media students who have experienced academic difficulties to understand their academic status and to help them identify strategies, techniques and resources that can assist them in overcoming their particular performance challenges. Applicable College and WVU services, policies and procedures also are discussed. Reed College Multidisciplinary Orientation. Engages students in active learning strategies that enable effective transition to college life at WVU. Students will explore school, college and university programs, policies and services relevant to academic success. Provides active learning activities that enable effective transition to the academic environment. Students examine school, college and university programs, policies and services. Visual Journalism and New Media. College of Media major or minor. Theory and principles of visual communication and image culture. Minimum cumulative GPA of C. Introduction to the fundamental reporting and storytelling skills that are the foundation of all media writing: Basic techniques of journalistic photography, digital imaging and editing. Students must have accessto a film or digital camera. Electronic Media and Society. Open to all University students. Survey of the electronic media industry with an emphasis on the role of broadcast journalism in society. Covers historical development, regulation, industry standards, ethics, international media, and contemporary issues. Coding for Media Applications. Introduces the principles and best practices of code development for visual interactive applications. The course covers the basics of interactive and programming code structures by introducing students to a variety of markup and interactive coding languages. Students will gain confidence with working with code through skill and knowledge based hands-on lessons and assignments. Documentary Film in America. This course, through viewings, readings, lectures and speakers will survey the history of documentary film in America and the ever-growing diversity of documentaries, influenced by the political, economic and social forces of their day. Investigation of topics not covered in regularly scheduled courses. Investigation of topics not covered in regularly scheduled courses,. Students in Honors Program and consent by the honors director. Independent reading, study or research. Essentials of developing and covering a news beat. Students generate stories, cultivate sources, and discover their community. Students develop the skills necessary to edit and design content for online and print media outlets. Introduction to advanced techniques and concepts in visual journalism for print and electronic media. Color, lighting, studio and digital camera techniques. An introduction to the design of newspapers, magazines and internet publications. Gaming Design and Digital Narrative. This course covers an introduction to the principles and practice of game design as a tool for interactivity, database storytelling, and audience building within journalism. The course will analyze case studies and provide hands-on development and application of game mechanics and game dynamics

within journalism and strategic media across web, mobile, tablet and emergent augmented reality platforms. Sports and Adventure Media Writing. Focuses on writing media content about sports and adventure activities for journalism and strategic communications purposes. Attention is given to writing styles used for different mediums as well as strategies to incorporate audience insight and engagement. Infographics and Data Visualization. Students practice data-driven journalism, a field that includes finding, compiling, cleaning, extrapolating from, and visualizing data, as well as using graphics software and basic coding languages. Video and Audio News Writing. Gathering, researching, and evaluating facts; reporting and writing news for radio and television; editorial decision making and responsibility; broadcast news ethics. Media Relations In Sport. Provides an in-depth understanding of how effective public relations plays an integral role in any sports organization via a myriad of communication efforts used in the dissemination of information to the media and the public. User Experience Design for Media Applications. Covers the skills and knowledge necessary to develop mobile application technology Apps on Android and iOS platforms. Allows the student to explore creative, commercial, and entrepreneurial opportunities in the mobile app marketplace. Sports and Adventure Media Video Storytelling. Focuses on creating sports and adventure media video stories for journalism and strategic communications purposes. Attention is given to video storytelling techniques. Involves direct practice covering sporting events, producing video content and applying audience insight and engagement techniques. Writing and reporting news for radio and other digital audio sources. Reporting, writing and producing stories for television news using digital video technology; emphasis on visual storytelling, editorial decision making, and ethical and legal considerations. Fundamental problems and techniques in operation of community newspapers. Senior status or departmental permission. A project-based, immersion course in experimental journalism using new technology such as virtual reality, augmented reality, sensors, drones and other experimental storytelling methods. Develops critical thinking skills in reporting and writing stories. Students examine the value of sport journalism; the way sport functions in society, and gain an understanding of ethics in sport journalism. Students write carefully researched stories using writing, reporting, and interviewing skills they have acquired in previous classes while applying techniques of literary journalism. This course is an examination of the issues facing the field of entertainment reporting. Students will cover beats, produce reporting and examine the entertainment industry. Developing writing, and editing news features, personality profiles, color pieces, issue oriented articles and human impact stories for news, public relations and film. Best practices and ethical considerations of travel and adventure journalism, including photography and point-of-view videography, and appropriate use of digital platforms, blogging and social media for journalistic purposes. Includes a travel component. Reporting on the agencies, structures, and programs that make society work, including circuit court and police. Development of media from seventeenth-century England and the American colonies; great names in journalism; freedom of the press and its implications and impact on the nation. Media Ethics and Law. How ethics and law work together to help create and maintain the media environment. Examines ethical paradigms within a legal framework, with special emphasis on morality. Students will analyze news issues and write opinion-based pieces. Social Media and Journalism. This lab course identifies and applies the principles behind social media applications such as blogs and networking sites. Includes software basics and use of audio, video and still photography to engage and inform audiences. Ethical and legal issues related to visual communications also are discussed. This online course examines how social media channels can be utilized to meet the goals of corporate, non-profit, political and issue based outreach messaging. This online course examines how messages can be crafted for maximum success and reach in the social media landscape. Students will explore different methods for monitoring and measurement, explore current trends in social media and examine case studies of successful social media integration across multiple platforms. This online course examines case studies where social media was used successfully in instances of promotion, outreach and crisis communication. Live Sports Video Production. Production and coverage of live sporting events, including television terminology, camera operation, live directing, live technical directing, digital signage execution, instant replay, work ethic, and promptness. Visual Storytelling for the Media. Development of advanced practical and analytical skills in digital photojournalism, photo editing and cross-media design. Analysis of images, visual narratives, new

media storytelling, digital imaging, media asset management, and ethical and social issues. Full-time employment for a minimum of 10 weeks under a signed contract detailing the terms of the experience. Students must have a signed contract detailing terms of the learning experience. A combination of classroom theory and practical application of the function of media in an international setting.

Chapter 4 : Chemistry and Biochemistry

Disabilities: It is the policy of Duquesne University to provide reasonable accommodations to students with documented disabilities. If you require accommodations in this class, please contact the O ce of.

A survey of topics necessary for basic computer literacy. Credit not given to computer science majors or minors. Computer programming in Visual Basic. Algorithm development and data representation. Technical concepts of electronic mail, web browsing concepts and advanced features, HTML and web page design, technical concepts of the internet, advanced Internet services, concepts and issues in electronic publishing, ethics and security issues. COSC or equivalent. An introduction to fundamental computer science concepts for non-computer science majors. Computers have made possible new ways of thinking about how to solve problems. This course introduces this style of thinking to students from any discipline by applying tools and techniques designed for beginners to engaging problems. Topics include basics of algorithm design and development, abstraction, modularization, information organization, and object-oriented concepts. Object oriented programming, objects and classes, data abstraction, functions, looping, selections, control structures, arrays, searching, and sorting. Credit is not allowed for both and Object oriented programming, objects and classes, data abstraction, functions, looping, selections, control structures, arrays, searching, and sorting in an environment with scientific and mathematical applications. Data abstraction, queues, linked lists, recursion, stacks, trees, string processing, searching and sorting, and hashing. Java API support for data structures. Basic structure of computer hardware and software, data representation, addresses and instructions, control structures, device drivers, files, and macros. This course builds a basic cross-disciplinary understanding of how computers and networks work, of the role of information assurance, of the key principles of confidentiality, integrity, and access, and of major technologies for securing these principles such as security models, cryptography, authentication issues, access control, intrusion detection, auditing, and damage control. Data organization, connections between the design of algorithms and the efficient implementation and manipulation of data structures. Abstract data types, tries, B-trees, and graphs. Boolean algebra and logic gates, combinational logic, decoders, encoders, multiplexers, registers, counters, memory units, flip-flops, algorithmic state machines, and digital integrated circuits. Identical to MATH Interaction between software and hardware components in an integrated system, program translation issues, assemblers, linkers, loaders, and compilers. Organization of operating systems and basic computer architecture. Seminar style course serving as a forum in which students and faculty discuss research topics of current interest. Each working group will consist of a combination of faculty lectures, student presentations, open discussions, and group projects. Student participants will be expected to lead at least one class discussion. The content of the course will vary from term to term. An exploration of the impact of computers on present and future society including sociological and philosophical issues in computer science. One course in computer science on the level. The use, design, and implementation of database management systems. Topics include data models, current DBMS implementations, and data description, manipulation, and query languages. Knowledge representation and natural language processing, search strategies, design and applications of heuristics, expert systems, and applications. Formal languages and their relation to automata. The Chomsky language hierarchy, recognition of languages by automata, Turing machines, decidability, and computability. Geometric generation of two- and three-dimensional graphics. Scan conversion, geometric transformation, clipping, interaction, curves and surfaces, and animation. Syntactic and semantic issues in program language definition and implementation. Methods and tools for the structuring and modular design of large systems, organization and techniques of team programming, design evaluation and validation. Network technologies, protocols, and management. The effects of the Internet and World Wide Web on computing and society. Network, database, and Web security, threat models, elementary and advanced cryptology, protocol analysis, covert channels, access control and trust issues, legal and ethical issues in security. An individual or group project involving a significant programming component, documentation, and written report on a topic of current interest in computer science. Senior status and

Chapter 5 : Transfer Courses

Here is the best resource for homework help with MATH C: Calculus I at Duquesne University. Find MATHC study guides, notes, and practice tests from.

Mathematical truth, axioms and theorems, propositional truth tables, quantifiers, set theory, indexed families, mathematical induction, cardinality, finite and infinite sets, denumerability, the Axiom of Choice, and the continuum hypothesis. CPMA Linear Algebra Matrices, vector spaces, linear transformations, determinants, eigenvalues and eigenvectors, and functions of matrices. Three dimensional geometry, directional derivatives, gradient, divergence, curl, maximum-minimum problems, multiple integrals, parametric surfaces and curves, and line integrals. Review of random variables, discrete and continuous distributions, expectation, conditional probability, and limit theorems. Introduction to the Poisson point process and Markov chains. Review of statistical estimation and hypothesis testing. Introduction to nonparametric methods, permutation tests, the bootstrap, and Bayesian statistics. Linear and nonlinear regression, logistic regression, analysis of variance, and generalized linear models. CPMA Experimental Design Principles of experimental design, randomization, blocking, factorial designs, repeated measures, and Latin squares. Classes, objects, instances, messages, methods, inheritance, interfaces, polymorphism, software life cycle, variables, expressions, data objects, control structures, strings, arrays, files, searching, sorting, applets, toolkits, threads, and graphical user interfaces. Abstract data types, stacks, queues, databases, priority queues, trees, linked lists, hashing, balanced trees, self-organizing data structures, and advanced sorting. Software development processes and the software life cycle, software architecture and design, emphasizing object-oriented design, user interface design, validation and verification, testing methods, systems analysis and requirements definition, software management and personnel issues. Network technologies, protocols, and management. The effects of the Internet and World Wide Web on computing and society. Introduction to the mathematics of images and image processing, as well as computational methods for real data manipulation. Topics include image acquisition, image enhancement and restoration in both the spatial and frequency domains, the Fourier transform, wavelets, image compression, image segmentation, and morphological processing algorithms. An introductory course covering concepts such as paths, Eulerian circuits, trees, distance, matchings, connectivity, network flows, colorings, planarity, Hamiltonian cycles, and NP-completeness, with focus on both theoretical and algorithmic aspects and emphasis on writing proofs. Option strategies, future markets, option price relations, binomial option pricing model, binomial put model, and the Black-Scholes analysis. Analytic functions, elementary transformations, complex integration, Cauchy theory of integration, complex power series, Laurent series, and residues. Finite difference methods, stability, boundary value problems, ordinary differential equations, integral equations, and partial differential equations. CPMA Cryptology 3 cr. Mathematical techniques for securing data for storage or transmission in an insecure context: An introduction to the background of operations including example problems and a brief history. An extensive discussion of the theory and applications of linear programming will follow. Other topics will include integer programming, transportation and network flow models, and dynamic programming. Linear systems, interpolation, functional approximation, numeric differentiation and integration, and solutions to non-linear equations. CPMA Optimization 3 cr. Linear programming, transportation problem, network flow, nonlinear convex programming, dynamic programming, geometric programming, game theory, and gradient methods. Regression algorithms, simulation, generating pseudo-random numbers, Markov chain Monte Carlo, and the bootstrap. Building both a predictive and a classification model using data mining techniques. Computational and statistical modeling of human cognitive processes and their implementation: Development and application of techniques which allow computation on different components of a network: Basic tools, including statistical significance testing, overview of theory, algorithms, and applications, concept learning, reinforcement learning, clustering, advanced concept learning, neural networks, perceptrons, decision trees, general-purpose algorithmic methods, data mining, and collaborative filtering. BNF representation, variables, scope, binding, data types and type checking, abstract data types, control, control flow abstractions, procedural abstractions,

calling mechanisms, semantic models, category theory, functional programming, lambda calculus, logic programming, functors, adjoint functors, 2-categories, and little categories. Cardinality of sets, uncountability of certain sets, languages, regular languages, context-free languages, the Chomsky hierarchy, Turing machines, Church-Turing thesis, problems that are not Turing computable, and an introduction to computational complexity. Network, database, and Web security, threat models, elementary and advanced crytology, protocol analysis, covert channels, access control and trust issues, legal and ethical issues in security. Various subjects in computational mathematics. May be repeated for credit when content changes. Permission of the instructor. Directed study on a topic related to computational mathematics. May be repeated once for credit. Permission of the instructor and Graduate Director. Permission of the Graduate Director.

Chapter 6 : Ramsey, Kim - Band / Ms. Ramsey

Computer Science Courses. - Elements of Computer Science: 2 cr. A survey of topics necessary for basic computer literacy.

Initial topics of with topics from algebra integrated as needed. Initial topics of with topics from algebra and trigonometry integrated as needed. Remaining topics of with topics from algebra integrated as needed. Limits, continuity, differentiation of algebraic, exponential and logarithmic functions. An introduction to integration. Remaining topics of with topics from algebra and trigonometry integrated as needed. The same topics as except trigonometric functions are included. Applications of the definite integral, parametric equations, polar coordinates, sequences, and series. Exploratory data analysis and statistical inference including graphical summaries of data, sampling distributions, confidence intervals, and hypothesis testing. Sets, functions, relations, partial order, methods of propositional logic, introduction to predicate logic, counting, recurrence relations, asymptotic analysis, proof, including induction, introduction to probability, graphs. Calculus of functions of several variables and vector valued functions. Line and surface integrals. The purpose of this course is to introduce students to various mathematical proof techniques including conditional proofs, biconditional proofs, proofs by contradiction, induction, and double inclusion. The goal of the course is that the students become more proficient at proof-writing in order to make more seamless the transition to higher level mathematics. Math ; Co-requisite: Descriptive statistics, sampling distributions, confidence intervals, hypothesis testing, non-parametric methods, chi-square tests, regression and correlation methods, and analysis of variance. Evidence of college level algebra skills. Univariate and multivariate probability distributions of discrete and continuous random variables, mathematical expectation, limit theorems. A continuation of including probability and sampling distributions of random variables, confidence intervals, and hypothesis testing. Linear systems, interpolation, functional approximation, numeric differentiation and integration, and solutions to non-linear equations. May be counted as either mathematics or computer science, but not both. Systems of linear equations, vectors and matrices, matrix operations, determinants, vectors spaces and subspaces, linear transformations, and eigenvalues and eigenvectors.

Chapter 7 : Gettysburg College - Department of Mathematics Facts

Duquesne University Course Equivalents Pitt Course DUQUESNE Course Course Description MATH MATH Analytical Geometry & Calculus I.

The Ohio State University M. Eotvos University Research Interests: He has over 20 refereed publications, including: Open problems about sumsets in finite abelian groups: Combinatorial and additive number theory. II, 9â€”23, Springer Proc. On asymptotic approximate groups of integers. Integers 17 , Paper No. On two questions about restricted sumsets in finite abelian groups. Combin 68 , â€” Number Theory , â€” with R. On the minimum size of restricted sumsets in cyclic groups. The h-critical number of finite abelian groups. The minimum size of signed sumsets. Beth Campbell Hetrick Ph. Bryn Mawr College M. Bryn Mawr College B. Villanova University Research Interests: Operator Theory, Functional Analysis. Huddell, Continuous dependence on modeling in Banach space using a log- arithmic approximation. Continuous dependence on modeling for nonlinear ill-posed problems, J. Hughes Regularization of the backward heat equation via heatlets, Electron. University of Texas at Austin M. A new family of Castle and Frobenius nonclassical curves with H. Borges Journal of Pure and Applied Algebra, , no. On a Frobenius problem for polynomials with R. Rodriguez Rocky Mountain J. Explicit points on the Legendre curve II with C. Ulmer Mathematical Research Letters 21, no. Elliptic curves with a large set of integral points over function fields. On the characterization of minimal value set polynomials with H. Journal of Number Theory , no. Unboundedness of the number of rational points on curves over function fields with D. Voloch New York J. Solutions of the Markov equation over polynomial rings with R. On a Frobenius problem for integral domains with R. Integral points on quadratic twists of elliptic curves over function fields. A note on multiplicative sets with P. University of Pennsylvania B. Rice University Research Interests: Klein Four Actions on Graphs and Sets. American Mathematical Monthly, 6: Critical groups of graphs with dihedral actions II. Glass, Darren and Todd Neller.

Chapter 8 : Course Equivalencies | Transfer College | Michigan Engineering

CPMA Logic and Proof: cr. Mathematical truth, axioms and theorems, propositional truth tables, quantifiers, set theory, indexed families, mathematical induction, cardinality, finite and infinite sets, denumerability, the Axiom of Choice, and the continuum hypothesis.

Chapter 9 : Mark Haas at Duquesne University - www.nxgvision.com

To graduate, a student must complete the bachelor of science degree in engineering at Case Western Reserve University or the University of Pittsburgh and transfer back 20 credits to complete a bachelor of arts degree at Duquesne.