

Course Schedule - Summer 2008

Mathematics

115 **Preparation for Calculus** credit: 3 hours.

Reviews trigonometric, rational, exponential, and logarithmic functions; provides a full treatment of limits, definition of derivative, and an introduction to finding area under a curve. Intended for students who need preparation for MATH 220, either because they lack the content background or because they are not prepared for the rigor of a university calculus course. Credit is not given for both MATH 115 and either MATH 014 or MATH 016. Students may not receive credit for MATH 115 if MATH 115 is taken after receiving credit for MATH 220 or MATH 221. Prerequisite: MATH 012 and an adequate ALEKS score.

This course satisfies the General Education Criteria for a Quant Reasoning I course.

CRN	Type	Section	Time	Days	Location	Instructor
33872	lecture-discussion	B1	09:00 AM - 09:50 AM	MTWRF	Room 141 Altgeld Hall	Dixit, A
33872: Quant Reasoning I course.Meets 09-Jun-08 - 31-Jul-08.						
	lecture-discussion	B1	03:00 PM - 03:50 PM	M	room 141 Altgeld Hall	Dixit, A
: Quant Reasoning I course.Meets 09-Jun-08 - 31-Jul-08.						

125 **Elementary Linear Algebra** credit: 3 hours.

Basic concepts and techniques of linear algebra; includes systems of linear equations, matrices, determinants, vectors in n-space, and eigenvectors, together with selected applications, such as Markov processes, linear programming, economic models, least squares, and population growth. Credit is not given for both MATH 125 and any of MATH 225, MATH 410, or MATH 415. Prerequisite: MATH 012, or an adequate ACT score.

Mathematics placement exams have been eliminated. Math ACT scores are used in their place.

CRN	Type	Section	Time	Days	Location	Instructor
30965	lecture-discussion	D1	11:00 AM - 11:50 AM	MTWRF	Room 145 Altgeld Hall	McCullough, J
30965: Meets 09-Jun-08 - 31-Jul-08.						
	lecture-discussion	D1	03:00 PM - 03:50 PM	W	room 145 Altgeld Hall	McCullough, J
: Meets 09-Jun-08 - 31-Jul-08.						

161 **Statistics** credit: 3 hours.

Same as STAT 100. See STAT 100.

This course satisfies the General Education Criteria for a Quant Reasoning I course.

CRN	Type	Section	Time	Days	Location	Instructor
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30454	lecture-discussion	E1	01:00 PM - 02:50 PM	MTR	room 2 Illini Hall	Yang, Y
30454: Quant Reasoning I course.Meets 09-Jun-08 - 31-Jul-08.						
30455	lecture-discussion	N	10:00 AM - 11:50 AM	TWR	room 241 Everitt Elec and Comp Engr Lab	Hirtz, N
30455: Quant Reasoning I course.Meets 09-Jun-08 - 31-Jul-08.						
30457	lecture-discussion	T1	03:00 PM - 04:50 PM	TWR	room 138 Henry Administration Bldg	Patterson, J
30457: Quant Reasoning I course.Meets 09-Jun-08 - 31-Jul-08.						

181 **A Mathematical World** credit: 3 hours.

Introduction to selected areas of mathematical sciences through application to modeling and solution of problems involving networks, circuits, trees, linear programming, random samples, regression, probability, inference, voting systems, game theory, symmetry and tilings, geometric growth, comparison of algorithms, codes and data management. Prerequisite: Three years of high school mathematics, including two years of algebra and one year of geometry.

This course satisfies the General Education Criteria for a Quant Reasoning I course.

CRN	Type	Section	Time	Days	Location	Instructor
33475	lecture-discussion	B1	09:00 AM - 09:50 AM	MTWR	Room 143 Altgeld Hall	Green, W
33475: Quant Reasoning I course.Meets 09-Jun-08 - 31-Jul-08.						
	lecture-discussion	B1	03:00 PM - 03:50 PM	M	room 143 Altgeld Hall	Green, W
: Quant Reasoning I course.Meets 09-Jun-08 - 31-Jul-08.						

199 **Undergraduate Open Seminar** credit: 1 to 5 hours.

Approved for both letter and S/U grading. May be repeated.

CRN	Type	Section	Time	Days	Location	Instructor
10551	independent study		ARRANGED			
10551: Instructor Approval Required						

220 **Calculus** credit: 5 hours.

First course in calculus and analytic geometry; basic techniques of differentiation and integration with applications including curve sketching; antidifferentiation, the Riemann integral, fundamental theorem, exponential and trigonometric functions. Credit is not given for both MATH 220 and either MATH 221 or MATH 234. Prerequisite:

MATH 016 or MATH 115; and an adequate ALEKS placement score.

This course satisfies the General Education Criteria for a Quant Reasoning I course.

Mathematics placement exams have been eliminated. Math ACT scores are used in their place. Students must register for one discussion and one lecture section beginning with the same letter. Engineering students must obtain a dean's approval to drop this course after the second week of instruction.

CRN	Type	Section	Time	Days	Location	Instructor
30963	lecture-discussion	C1	10:00 AM - 11:50 AM	MTWRF	Room 143 Altgeld Hall	Tichenor, S
30963: Quant Reasoning I course.Meets 09-Jun-08 - 31-Jul-08.						

225 **Introductory Matrix Theory** credit: 2 hours.

Systems of linear equations, matrices and inverses, determinants, and a glimpse at vector spaces, eigenvalues and eigenvectors. Credit is not given for both MATH 225 and any of MATH 125, MATH 410, or MATH 415. Prerequisite: MATH 220 or MATH 221; or equivalent.

Engineering students must obtain a dean's approval to drop this course after the second week of instruction.

CRN	Type	Section	Time	Days	Location	Instructor
30970	lecture-discussion	M1	09:00 AM - 09:50 AM	TWRF	room 145 Altgeld Hall	Lior, D
30970: Meets 09-Jun-08 - 31-Jul-08.						

231 **Calculus II** credit: 3 hours.

Second course in calculus and analytic geometry: techniques of integration, conic sections, polar coordinates, and infinite series. Credit is not given for both MATH 231 and MATH 230. Prerequisite: MATH 220 or MATH 221.

This course satisfies the General Education Criteria for a Quant Reasoning I course.

Students must register for one discussion and one lecture section beginning with the same letter. Engineering students must obtain a dean's approval to drop this course after the second week of instruction.

CRN	Type	Section	Time	Days	Location	Instructor
33001	lecture-discussion	A1	08:00 AM - 08:50 AM	MTWRF	Room 141 Altgeld Hall	Barrus, M
33001: Quant Reasoning I course.Meets 09-Jun-08 - 31-Jul-08.						
	lecture-discussion	A1	03:00 PM - 03:50 PM	W	room 141 Altgeld Hall	Barrus, M
: Quant Reasoning I course.Meets 09-Jun-08 - 31-Jul-08.						
33002	lecture-discussion	B1	09:00 AM - 09:50 AM	MTWRF	Room 345 Altgeld Hall	Szuta, P
33002: Quant Reasoning I course.Meets 09-Jun-08 - 31-Jul-08.						

	lecture-discussion	B1	03:00 PM - 03:50 PM	W	room 345 Altgeld Hall	Szuta, P
: Quant Reasoning I course.Meets 09-Jun-08 - 31-Jul-08.						

234 **Calculus for Business I** credit: 4 hours.

Introduction to the concept of functions and the basic ideas of the calculus. Credit is not given for both MATH 234 and either MATH 220 or MATH 221. Prerequisite: MATH 012 and an adequate ALEKS score.

This course satisfies the General Education Criteria for a Quant Reasoning I course.

Students must register for one discussion and one lecture section.

CRN	Type	Section	Time	Days	Location	Instructor
30968	lecture-discussion	C1	10:30 AM - 11:50 AM	MTWR	Room 147 Altgeld Hall	Eckhardt, C
30968: Quant Reasoning I course.Meets 09-Jun-08 - 31-Jul-08.						

241 **Calculus III** credit: 4 hours.

Third course in calculus and analytic geometry including vector analysis: Euclidean space, partial differentiation, multiple integrals, line integrals and surface integrals, the integral theorems of vector calculus. Credit is not given for both MATH 241 and any of MATH 244, MATH 292, or MATH 380. Prerequisite: MATH 231.

This course satisfies the General Education Criteria for a Quant Reasoning II course.

Students must register for one discussion and one lecture section beginning with the same letter. Engineering students must obtain a dean's approval to drop this course after the second week of instruction.

CRN	Type	Section	Time	Days	Location	Instructor
33477	lecture-discussion	B1	09:00 AM - 10:20 AM	MTWR	Room 347 Altgeld Hall	Lesaulnier, T
33477: Quant Reasoning II course.Meets 09-Jun-08 - 31-Jul-08.						
33478	lecture-discussion	D1	11:00 AM - 12:20 PM	MTWR	Room 305 Materials Science and Eng Bld	Rettberg, R
33478: Quant Reasoning II course.Meets 09-Jun-08 - 31-Jul-08.						

285 **Intro Differential Equations** credit: 3 hours.

Techniques and applications of ordinary differential equations, including Fourier series and boundary value problems, and an introduction to partial differential equations. Intended for engineering majors and others who require a working knowledge of differential equations. Credit is not given for both MATH 285 and any of MATH 284, MATH 286, MATH 441. Prerequisite: MATH 241.

This course satisfies the General Education Criteria for a Quant Reasoning II course.

CRN	Type	Section	Time	Days	Location	Instructor
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34331	lecture-discussion	D1	11:00 AM - 11:50 AM	MTWR	Room 343 Altgeld Hall	Miles, J
34331: Quant Reasoning II course.Meets 09-Jun-08 - 31-Jul-08.						
	lecture-discussion	D1	02:00 PM - 02:50 PM	W	room 343 Altgeld Hall	Miles, J
: Quant Reasoning II course.Meets 09-Jun-08 - 31-Jul-08.						

347 **Fundamental Mathematics** credit: 3 hours.

Fundamental ideas used in many areas of mathematics. Topics will include: techniques of proof, mathematical induction, binomial coefficients, rational and irrational numbers, the least upper bound axiom for real numbers, and a rigorous treatment of convergence of sequences and series. This will be supplemented by the instructor from topics available in the various texts. Students will regularly write proofs emphasizing precise reasoning and clear exposition. Credit is not given for both MATH 347 and MATH 348. Prerequisite: MATH 231.

This course satisfies the General Education Criteria for a Quant Reasoning II course.

CRN	Type	Section	Time	Days	Location	Instructor
33003	lecture-discussion	C1	09:00 AM - 09:50 AM	M	room 241 Altgeld Hall	Weichsel, P
33003: Quant Reasoning II course.Meets 09-Jun-08 - 31-Jul-08.						
	lecture-discussion	C1	10:00 AM - 10:50 AM	MTWR	Room 241 Altgeld Hall	Weichsel, P
: Quant Reasoning II course.Meets 09-Jun-08 - 31-Jul-08.						

380 **Advanced Calculus** credit: 3 hours.

Introductory study of vector calculus and functions of several variables; topics include directional derivatives; Jacobians; change of variables in multiple integrals; maxima and minima; line and surface integrals; theorems of Gauss, Green, and Stokes; infinite series; and uniform convergence. Credit is not given for both MATH 380 and MATH 241. Prerequisite: MATH 242.

This course satisfies the General Education Criteria for a Quant Reasoning II course.

CRN	Type	Section	Time	Days	Location	Instructor
30973	lecture-discussion	B1	09:00 AM - 09:50 AM	MTWR	Room 343 Altgeld Hall	Carty, T
30973: Quant Reasoning II course.Meets 09-Jun-08 - 31-Jul-08.						
	lecture-discussion	B1	03:00 PM - 03:50 PM	W	room 343 Altgeld Hall	Carty, T
: Quant Reasoning II course.Meets 09-Jun-08 - 31-Jul-08.						

390 **Individual Study** credit: 0 to 3 hours.

Guided individual study of advanced topics not covered in other courses. May be repeated to a maximum of 8

hours. Approved for both letter and S/U grading. Prerequisite: Consent of instructor.

CRN	Type	Section	Time	Days	Location	Instructor
10553	independent study		ARRANGED			
10553: Instructor Approval Required						

415 **Applied Linear Algebra** credit: 3 or 4 hours.

Introductory course emphasizing techniques of linear algebra with applications to engineering; topics include matrix operations, determinants, linear equations, vector spaces, linear transformations, eigenvalues, and eigenvectors, inner products and norms, orthogonality, equilibrium, and linear dynamical systems. 4 hours of credit requires approval of the instructor and department with completion of additional work of substance. Credit is not given for both MATH 415 and any of MATH 125, MATH 225, or MATH 410. Prerequisite: MATH 241 or consent of instructor.

This course satisfies the General Education Criteria for a Quant Reasoning II course.

CRN	Type	Section	Time	Days	Location	Instructor
30979	lecture-discussion	B3	09:00 AM - 09:50 AM	MTWR	Room 341 Altgeld Hall	Bergvelt, M
30979: Quant Reasoning II course.Meets 09-Jun-08 - 31-Jul-08.						
	lecture-discussion	B3	03:00 PM - 03:50 PM	W	room 341 Altgeld Hall	Bergvelt, M
: Quant Reasoning II course.Meets 09-Jun-08 - 31-Jul-08.						
: 3 hours						
30978	lecture-discussion	B4	09:00 AM - 09:50 AM	MTWR	Room 341 Altgeld Hall	Bergvelt, M
30978: Quant Reasoning II course.Meets 09-Jun-08 - 31-Jul-08.						
	lecture-discussion	B4	03:00 PM - 03:50 PM	W	room 341 Altgeld Hall	Bergvelt, M
: Quant Reasoning II course.Meets 09-Jun-08 - 31-Jul-08.						
: 4 hoursDepartmental Approval Required						
31122	lecture-discussion	D3	11:00 AM - 11:50 AM	MTWR	Room 245 Altgeld Hall	Muncaster, R
31122: Quant Reasoning II course.Meets 09-Jun-08 - 31-Jul-08.						
	lecture-discussion	D3	03:00 PM - 03:50 PM	R	room 245 Altgeld Hall	Muncaster, R
: Quant Reasoning II course.Meets 09-Jun-08 - 31-Jul-08.						
: 3 hours						

31123	lecture-discussion	D4	11:00 AM - 11:50 AM	MTWR	Room 245 Altgeld Hall	Muncaster, R
31123: Quant Reasoning II course.Meets 09-Jun-08 - 31-Jul-08.						
	lecture-discussion	D4	03:00 PM - 03:50 PM	R	room 245 Altgeld Hall	Muncaster, R
: Quant Reasoning II course.Meets 09-Jun-08 - 31-Jul-08.						
: 4 hoursDepartmental Approval Required						

444 **Elementary Real Analysis** credit: 3 or 4 hours.

Careful treatment of the theoretical aspects of the calculus of functions of a real variable; topics include the real number system, limits, continuity, derivatives, and the Riemann integral. 4 hours of credit requires approval of the instructor and department with completion of additional work of substance. Credit is not given for both MATH 444 and MATH 447. Prerequisite: MATH 241; MATH 347 or MATH 348, or equivalent.

This course satisfies the General Education Criteria for a Quant Reasoning II course.

CRN	Type	Section	Time	Days	Location	Instructor
30012	lecture-discussion	D3	11:00 AM - 11:50 AM	MTWR	Room 243 Altgeld Hall	Loeb, P
30012: Quant Reasoning II course.Meets 09-Jun-08 - 31-Jul-08.						
	lecture-discussion	D3	02:00 PM - 02:50 PM	W	room 243 Altgeld Hall	Loeb, P
: Quant Reasoning II course.Meets 09-Jun-08 - 31-Jul-08.						
: 3 hours						
30013	lecture-discussion	D4	11:00 AM - 11:50 AM	MTWR	Room 243 Altgeld Hall	Loeb, P
30013: Quant Reasoning II course.Meets 09-Jun-08 - 31-Jul-08.						
	lecture-discussion	D4	02:00 PM - 02:50 PM	W	room 243 Altgeld Hall	Loeb, P
: Quant Reasoning II course.Meets 09-Jun-08 - 31-Jul-08.						
: 4 hoursDepartmental Approval Required						

446 **Applied Complex Variables** credit: 3 or 4 hours.

For students who desire a working knowledge of complex variables; covers the standard topics and gives an introduction to integration by residues, the argument principle, conformal maps, and potential fields. Students desiring a systematic development of the foundations of the subject should take MATH 448. 4 hours of credit requires approval of the instructor and department with completion of additional work of substance. Credit is not given for both MATH 446 and MATH 448. Prerequisite: MATH 241 or MATH 380; or consent of instructor.

CRN	Type	Section	Time	Days	Location	Instructor
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30014	lecture-discussion	X3	12:00 PM - 12:50 PM	MTWR	Froom 145 Altgeld Hall	Nikolaev, I
30014: Meets 09-Jun-08 - 31-Jul-08.						
	lecture-discussion	X3	01:00 PM - 01:50 PM	W	room 145 Altgeld Hall	Nikolaev, I
: Meets 09-Jun-08 - 31-Jul-08.						
: 3 hours						
30015	lecture-discussion	X4	12:00 PM - 12:50 PM	MTWR	Froom 145 Altgeld Hall	Nikolaev, I
30015: Meets 09-Jun-08 - 31-Jul-08.						
	lecture-discussion	X4	01:00 PM - 01:50 PM	W	room 145 Altgeld Hall	Nikolaev, I
: Meets 09-Jun-08 - 31-Jul-08.						
: 4 hoursDepartmental Approval Required						

461 **Probability Theory** credit: 3 or 4 hours.

Introduction to mathematical probability; includes the calculus of probability, combinatorial analysis, random variables, expectation, distribution functions, moment-generating functions, and central limit theorem. Same as STAT 451. 4 hours of credit requires approval of the instructor and department with completion of additional work of substance. Prerequisite: MATH 241 or equivalent.

CRN	Type	Section	Time	Days	Location	Instructor
30017	lecture-discussion	B3	09:00 AM - 09:50 AM	MTWR	Froom 245 Altgeld Hall	Carpenter, B
30017: Meets 09-Jun-08 - 31-Jul-08.						
	lecture-discussion	B3	02:00 PM - 02:50 PM	M	room 245 Altgeld Hall	Carpenter, B
: Meets 09-Jun-08 - 31-Jul-08.						
: 3 hours						
30019	lecture-discussion	B4	09:00 AM - 09:50 AM	MTWR	Froom 245 Altgeld Hall	Carpenter, B
30019: Meets 09-Jun-08 - 31-Jul-08.						
	lecture-discussion	B4	02:00 PM - 02:50 PM	M	room 245 Altgeld Hall	Carpenter, B
: Meets 09-Jun-08 - 31-Jul-08.						
: 4 hoursDepartmental Approval Required						

463 **Statistics and Probability I** credit: 4 hours.
Same as STAT 400. See STAT 400.

Students must register for one discussion and one lecture section.

CRN	Type	Section	Time	Days	Location	Instructor
30461	discussion-recitation	AD1	10:00 AM - 10:50 AM	TR	room 243 Mechanical Engineering Bldg	Yang, J
30461: Meets 09-Jun-08 - 31-Jul-08.						
30462	lecture	AL1	09:00 AM - 10:50 AM	MWF	room 165 Noyes Laboratory	Monrad, D
30462: Meets 09-Jun-08 - 31-Jul-08.						

464 **Statistics and Probability II** credit: 3 or 4 hours.
Same as STAT 410. See STAT 410.

CRN	Type	Section	Time	Days	Location	Instructor
33501	lecture	G1G	01:00 PM - 02:50 PM	MWF	room 160 English Bldg	Stepanov, A
33501: Meets 09-Jun-08 - 31-Jul-08.						
33503	lecture	G1U	01:00 PM - 02:50 PM	MWF	room 160 English Bldg	Stepanov, A
33503: Meets 09-Jun-08 - 31-Jul-08.						

490 **Advanced Topics in Mathematics** credit: 1 to 4 hours.
Deals with selected topics and applications of mathematics; see Class Schedule or department office for current topics. May be repeated with approval. Prerequisite: Consent of instructor.

CRN	Type	Section	Time	Days	Location	Instructor
34519	online	DGG	ARRANGED			Woods, D; Peressini, A
34519: OnlineAO Tuition 413, and AO Fees 41.00 dollars.						
34519: 1 hoursDynamic Geometry w/SketchPadDynamic Geometry with Geometer?s SketchPad - Module 10. Academic Outreach restrictions and assessments apply, see http://www.outreach.uiuc.edu ; this section is for students in the CTER Cohort.Meets 09-Jun-08 - 02-Aug-08.						
34444	online	TS	ARRANGED			Woods, D; Peressini,

						A
34444: OnlineAO Tuition 413, and AO Fees 41.00 dollars.						
34444: 4 hours Teaching Statistics Teaching Statistics in High School - Module 6. Academic Outreach restrictions and assessments apply, see http://www.outreach.uiuc.edu ; this section is for students in CTER Cohort. Meets 12-May-08 - 03-Aug-08.						

553 **Partial Differential Equations** credit: 4 hours.

Basic introduction to the study of partial differential equations; topics include: the Cauchy problem, power-series methods, characteristics, classification, canonical forms, well-posed problems, Riemann's method for hyperbolic equations, the Goursat problem, the wave equation, Sturm-Liouville problems and separation of variables, Fourier series, the heat equation, integral transforms, Laplace's equation, harmonic functions, potential theory, the Dirichlet and Neumann problems, and Green's functions. Prerequisite: Consent of instructor.

CRN	Type	Section	Time	Days	Location	Instructor
30021	lecture-discussion	C1	10:00 AM - 10:50 AM	MTWRF	Room 243 Altgeld Hall	Stolarsky, K
30021: Meets 09-Jun-08 - 31-Jul-08.						

595 **Advanced Topics in Math** credit: 1 to 4 hours.

May be repeated in the same or separate semesters. Prerequisite: Consent of instructor.

CRN	Type	Section	Time	Days	Location	Instructor
34631	lecture-discussion		ARRANGED			McCarthy, R
34631: Meets 09-Jun-08 - 31-Jul-08.						
34631: 4 hours						
33210	lecture-discussion	REB	ARRANGED			Berndt, B
33210: Meets 09-Jun-08 - 31-Jul-08.						
33210: 4 hours						
34023	lecture-discussion	RED	ARRANGED			Dunfield, N
34023: Meets 09-Jun-08 - 31-Jul-08.						
34023: 4 hours						
32496	lecture-discussion	REG	ARRANGED			Gorvett, R
32496: Meets 09-Jun-08 - 31-Jul-08.						

32496: 4 hours						
33290	lecture-discussion	REJ	ARRANGED			Junge, M
33290: Meets 09-Jun-08 - 31-Jul-08.						
33290: 4 hours						
32494	lecture-discussion	RER	ARRANGED			Rosendal, C
32494: Meets 09-Jun-08 - 31-Jul-08.						
32494: 4 hours						
33905	lecture-discussion	RES	ARRANGED			Stolarsky, K
33905: Meets 09-Jun-08 - 31-Jul-08.						
33905: 4 hours						
33212	lecture-discussion	RET	ARRANGED			Tyson, J
33212: Meets 09-Jun-08 - 31-Jul-08.						
33212: 4 hours						
32470	lecture-discussion	REW	ARRANGED			West, D
32470: Meets 09-Jun-08 - 31-Jul-08.						
32470: 4 hours						
33909	lecture-discussion	RRS	ARRANGED			Song, R
33909: Meets 09-Jun-08 - 31-Jul-08.						
33909: 4 hours						
33908	lecture-discussion	RSS	ARRANGED			Solecki, S
33908: Meets 09-Jun-08 - 31-Jul-08.						
33908: 4 hours						

597 **Reading Course** credit: 1 to 8 hours.

Approved for both letter and S/U grading. May be repeated in the same or separate terms to a maximum of 8 hours.

Prerequisite: Consent of instructor.

CRN	Type	Section	Time	Days	Location	Instructor
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10556	independent study		ARRANGED			
10556: Instructor Approval Required						

599 **Thesis Research** credit: 0 to 16 hours.
 May be repeated. Approved for S/U grading only. Prerequisite: Consent of instructor.

CRN	Type	Section	Time	Days	Location	Instructor
10600	independent study		ARRANGED			
10600: Instructor Approval Required						