SYLLABUS FOR "[FALL/SPRING]" SEMESTER, 20xx

Course Title:	Honors Calculus II	Instructor:	"[Instructor Name]"
Credit Hours:	4	Office:	"[Office Location]"
Course Number:	MATH 1930-00x	Hours:	"[Office Hours]"
Location and Time	"[Location and Time]"	email:	"[e-mail address]

TEXTBOOK: *Thomas' Calculus: Early Transcendentals*, 12th edition by M. Weir and J. Hass, Pearson.

CATALOG DESCRIPTION
Theory and applications of derivatives and integrals of a function of one variable.

PREREQUISITES
Math 1920 (Honors Calculus I).

LEARNING OBJECTIVES
A more detailed list of learning objectives is given below. At least 70% of the course time will be devoted to these essential outcomes. These objectives are listed again in the chronological list of topics at the end of this syllabus. The successful Calculus II student should be able to:

- **Definite Integrals:** Use antiderivatives to evaluate definite integrals and apply definite integrals in a variety of applications to model physical, biological or economic situations. Whatever applications (e.g. determining area, volume of solids of revolution, arc-length, area of surfaces of revolution, centroids, work, and fluid forces) are chosen, the emphasis should be on setting up an approximating Riemann sum and representing its limit as a definite integral.

- **Techniques of Integration:** Employ a variety of integration techniques to evaluate special types of integrals, including substitution, integration by parts, trigonometric substitution, and partial fraction decomposition.

- **Improper Integrals:** Evaluate improper integrals, including integrals over infinite intervals, as well as integrals in which the integrand becomes infinite on the interval of integration.

- **Sequences and Series:** Determine the existence of and find algebraically the limits of sequences. Determine whether a series converges by using appropriate tests, including the comparison, ratio, root, and integral.

- **Power Series:** Find the nth Taylor polynomial at a specified center for a function and estimate the error term. Use appropriate techniques to differentiate, integrate and find the radius of convergence for the power series of various functions.

- **Parametric Curves:** Analyze curves given parametrically and in polar form and find the areas of regions defined by such curves.

- **Lines and Planes:** Perform and apply vector operations, including the dot and cross product of vectors, in the plane and space.

RESOURCES
Free math tutoring on a walk-in basis is available in the **Math Learning and Resources Center** located in Rm B0200 in the lower level of Carlson Library (phone ext 2176). The Center operates on a walk-in basis. MLRC hours can be found at http://www.math.utoledo.edu/mlrc/MLRC.pdf

GRADING AND EVALUATION

Syllabus should describe the methods of evaluation whether quizzes, exams or graded assignments. Usually there are at least two one-hour in class exams. If quiz scores are not used as a portion of the grade, there should be three one-hour exams. A description should be given of the grading method that includes the portion that each evaluating method counts. If the grading method uses a grading scale it should be clearly stated. A sample reasonable grade distribution for this class is:

Homework and Quizzes:	20%
Midterm Exams:	40%
Final Exam:	40%

In scheduling quizzes and exams, it should be kept in mind that the last day to add/drop the class is the end of the second week and the last day to withdraw from the class is the end of the tenth week. By these dates, students like to have some measure of their progress in the class.

IMPORTANT DATES

*The instructor reserves the right to change the content of the course material if he perceives a need due to postponement of class caused by inclement weather, instructor illness, etc., or due to the pace of the course.

MIDTERM EXAM:

FINAL EXAM:

OTHER DATES

The last day to drop this course is _____
The last day to withdraw with a grade of "W" from this course is _____

MISSED CLASS POLICY

If you miss any graded item, then this item may only be made up in accordance with the University's Missed Class Policy. This policy requires that you contact me in advance by phone, e-mail or in person, provide official documentation for the absence, and make up the missed item as soon as possible. You can find the University's Missed Class Policy at http://www.utoledo.edu/facsenate/missed_class_policy.html

ACADEMIC DISHONESTY

Any act of academic dishonesty as defined by the University of Toledo policy on academic dishonesty (found at http://www.utoledo.edu/dl/students/dishonesty.html) will result in an F in the course or an F on the item in question, subject to the determination of the instructor.

NON-DISCRIMINATION POLICY

The University of Toledo is committed to a policy of equal opportunity in education, affirms the values and goals of diversity.

STUDENT DISABILITY SERVICES

The University will make reasonable academic accommodations for students with documented disabilities. Students should contact the Student Disability Services (Rocket Hall 1820; 419.530.4981; studentdisabilitysvs@utoledo.edu) as soon as possible for more information and/or to initiate the process for accessing academic accommodations. For the full policy see: http://www.utoledo.edu/offices/student-disability-services/sam/index.html

STUDENT PRIVACY

Federal law and university policy prohibits instructors from discussing a student's grades or class performance with anyone outside of university faculty/staff without the student's written and signed consent. This includes parents and spouses. For details, see the "Confidentiality of student records (FERPA)" section of the University Policy Page at http://www.utoledo.edu/policies/academic/undergraduate/index.html

CLASS SCHEDULE
Syllabus should provide a list of sections to be covered and should indicate the material that might be covered on each in class examination. Please provide a class schedule that includes the exam schedule, list of drop and withdrawal dates, and time and place of the final exam. The recommended time to be devoted to each chapter is listed below. It is understood that since each class is different; the way you cover the material may vary. Nonetheless, the schedule below provides a template for completing the syllabus for the course, and should be checked throughout the semester to avoid covering too much material in the last weeks of the semester and to insure that no sections are left uncovered. Students will proceed to MATH 2950. The material in MATH 1930 is essential for success in that course. Please do not short-change students or hamper MATH 2950 instructors by skipping sections or rushing through the introduction to integration because of poor planning. If you see that you are likely to run out of time covering the last few sections, look over the entire course and decide which sections can be omitted without too much damage.

SUGGESTED SCHEDULE

Chapter	6	**Applications of Definite Integrals**	(total 4.5 hr)
	6.1	Volumes using Cross Sections; *Definite Integration*	2
	6.2	Volumes using Cylindrical Shells; *Definite Integration*	1.5
	6.3	Arc Length; *Definite Integration*	1
	6.4	**(Op.)** Graphing with Calculators and Computers	
Chapter	8	**Techniques of Integration**	(total 8 hr)
	8.1	Integration by Parts; *Techniques of Integration*	1.5
	8.2	Trigonometric Integrals; *Techniques of Integration*	1
	8.3	Trigonometric Substitution; *Techniques of Integration*	1.5
	8.4	Integration of Rational Functions by Partial Fractions; *Techniques of Integration*	2
	8.5	**(Op.)** Integral Tables	
	8.6	**(Op.)** Numerical Integration	
	8.6	Improper Integrals; *Improper Integrals*	2
Chapter	10	**Infinite Sequences and Series**	(total 12.5 hr)
	10.1	Sequences; *Sequences and Series*	2
	10.2	Infinite Series; *Sequences and Series*	1.5
	10.3	The Integral Test; *Sequences and Series*	1.5
	10.4	Comparison Tests; *Sequences and Series*	1
	10.5	Ratio and Root Tests; *Sequences and Series*	1
	10.6	Alternating Series, Absolute and Conditional Convergence*; *Sequences and Series*	
	10.7	Power Series; *Power Series*	2
	10.8	Taylor and Maclaurin Series; *Power Series*	2
	10.9	Convergence of Taylor Series; *Power Series*	1
	10.10	Applications of Taylor Series; *Power Series*	0.5
Chapter	11	**Parametric Equations and Polar Coordinates**	(total 6.5 hr)
	11.1	Parameterizations of Plane Curves; *Parametric Curves*	1
	11.2	Calculus of Parametric Curves; *Parametric Curves*	2
	11.3	Polar Coordinates; *Parametric Curves*	1
	11.4	Graphing in Polar Coordinates; *Parametric Curves*	1
	11.5	Areas and Lengths in Polar Coordinates; *Parametric Curves*	1.5
	11.6	**(Op.)** Conic Sections	
	11.7	**(Op.)** Conic Sections in Polar Coordinates	
Chapter	12	**Vectors and Geometry of Space**	(total 6.5 hr)
	12.1	Three Dimensional coordinate system; *Lines and Planes*	0.5
	12.2	Vectors; *Lines and Planes*	1
	12.3	The Dot Product; *Lines and Planes*	1.5
	12.4	The Cross Product; *Lines and Planes*	1.5
	12.5	Lines and Planes in Space; *Lines and Planes*	2
	12.6	**(Op.)** Cylinders and Quadric Surfaces	
		Total Hours	38

* Absolutely convergent series should be covered in an earlier section such as 10.4.