

<b>SYLLABUS FOR “[FALL/SPRING]” SEMESTER, 20xx</b>
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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]”

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**TEXTBOOK:** Thomas' Calculus: Early Transcendentals, 10th 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:

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## **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 grad

# CLASS SCHEDULE

## SUGGESTED SCHEDULE

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