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# Syllabus and Problem List for Math 152, Section 9, 10, and 11

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**Text:** *Calculus (Early Transcendentals)*, 3rd ed., Brooks/Cole, by James Stewart

**Meetings** The lectures will be given third period Tuesdays and Fridays in SEC-117. Section 9 will also meet M1 in SEC-218, while Section 10 will meet M2 in SEC-206 and Section 11 will meet M3 in TCB-110.

| Date | Lecture | Reading | Topics |
|---|---|---|---|
| 1/21 | 1 | 5.5, 6.1 | Integration by substitution, Area |
| 1/24 | 2 | 6.2, 6.3 | Volumes |
| 1/28 | 3 | 6.3, 6.5 | Volumes, Average values |
| 1/31 | 4 | 7.1 | Integration by parts |
| 2/4 | 5 | 7.2, 7.3 | Trigonometric integrals, Trigonometric substitution |
| 2/7 | 6 | 7.4, 7.6 | Partial fractions, Integration Strategies |
| 2/11 | 7 | 7.8 | Approximations for integrals |
| 2/14 | 8 | 7.9 | Improper integrals |
| 2/18 | 9 | 8.1 | Differential equations (separation of variables) |
| 2/21 | 10 | 8.1 | Differential equations (direction fields and applications) |
| 2/25 | 11 | 8.2 | Arc length |
| 2/28 | 12 | **First exam** (usual class time & place) | |
| 3/4 | 13 | 10.1 | Sequences |
| 3/7 | 14 | 10.2 | Series |
| 3/11 | 15 | 10.3 | Integral test, estimates |
| 3/14 | 16 | 10.4 | Comparison tests |
| **Spring Break** (March 16-23) | | | |
| 3/25 | 17 | 10.5, 10.6 | Alternating Series, Absolute convergence |
| 3/28 | 18 | 10.6, 10.7 | Ratio and root tests, Strategies |
| 4/1 | 19 | 10.8 | Power series |
| 4/4 | 20 | 10.9 | Representation of funtions by power series |
| 4/8 | 21 | 10.10 | Taylor and Maclaurin series |
| 4/11 | 22 | 10.11, 10.12 | Binomial series, applications of Taylor series |
| 4/15 | 23 | 10.12 | Applications of Taylor series |
| 4/18 | 24 | **Second exam** (usual class time & place) | |
| 4/22 | 25 | 9.1, 9.2 | Parametric equations |
| 4/25 | 26 | 9.3 | Arc length in parametric form |
| 4/29 | 27 | 9.4, 9.5 | Calculus in polar coordinates |
| 5/2 | 28 | | Catch up and Review |
| 5/7 | | **Final Exam**, 4:00-7:00 PM (place to be announced) | |

**OVER**

## Suggested problem list for Math 152

**Text** *Calculus (Early Transcendentals)*, 3rd ed., Brooks/Cole, by James Stewart

**Calculator** A graphing calculator is required for this course. We recommend the TI-82, but any calculator with equivalent capacities can be used. Calculators with QWERTY keyboards or symbolic differentiation and integration programs are not allowed on exams.

| Section | Suggested problems |
|---|---|
| 5.5 | 1, 5, 12, 21, 30, 36, 37, 41, 44, 61, 68, 74, 81 |
| 6.1 | 2, 3, 11, 21, 22, 35, 45, 46 |
| 6.2 | 4, 7, 9, 17, 18, 33, 51, 55, 56, 60 |
| 6.3 | 2, 3, 13, 18, 35, 36 |
| 6.4 | 3, 5, 11, 16 |
| 6.5 | 5, 10, 12 |
| 7.1 | 1, 4, 5, 8, 13, 14, 32, 37, 41, 56 |
| 7.2 | 1, 6, 17, 19, 20, 54, 58 |
| 7.3 | 5, 7, 8, 11, 14, 36 |
| 7.4 | 3, 9, 11, 19, 24, 25, 39, 42, 43 |
| 7.6 | 1, 2, 9, 15, 20, 23, 30, 46, 49 |
| 7.8 | 1, 3, 4, 7, 21, 22, 29, 32 |
| 7.9 | 1, 2, 3, 4, 12, 13, 27, 29, 30, 52 |
| 8.1 | 3, 4, 13, 17, 18, 19, 23, 24, 25, 26, 29, 30 |
| 8.2 | 5, 10, 21, 22 |
| 9.1 | 3, 9, 10, 13, 14, 28, 31 |
| 9.2 | 1, 2, 7, 12, 19, 24, 27 |
| 9.3 | 1, 6, 7, 9, 14, 15 |
| 9.4 | 4, 12, 20, 28, 47, 63, 74, 75 |
| 9.5 | 2, 5, 9, 17, 20, 44, 48 |
| 10.1 | 2, 3, 11, 12, 15, 19, 20, 24, 29 30, 59, 60 |
| 10.2 | 7, 19, 20, 25, 26, 27, 29, 40, 55 |
| 10.3 | 1, 3, 7, 9, 10, 17, 19, 22, 24, 25, 28 |
| 10.4 | 1, 2, 3, 6, 9, 16, 31, 33, 36 |
| 10.5 | 3, 4, 9, 10, 26, 27, 30, 31 |
| 10.6 | 1, 4, 5, 10, 17, 20, 24, 25, 33, 34, 36 |
| 10.7 | 1, 5, 6, 8, 15, 23, 30, 37 |
| 10.8 | 1, 2, 3, 9, 10, 13, 24, 33 |
| 10.9 | 3, 11, 12, 21, 24, 25, 28, 35 |
| 10.10 | 2, 3, 17, 19, 20, 25, 33, 34, 37, 41 |
| 10.11 | 4, 13 |
| 10.12 | 3, 5, 9, 10, 13, 18, 19, 22 |