**Math 120B Syllabus**

**Text:** *A first course in abstract algebra*, John Fraleigh, 7th Edition.

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| **Lecture** | **Section** | **Topic** |
| Mon, Sep 30 | 18 | Introduction to Rings and Fields |
| Wed, Oct 2 | 18 | Continued |
| Fri, Oct 4 | 19 | Integral Domains |
| Mon, Oct 7 | 20 | Fermat’s and Euler’s Theorems |
| Wed, Oct 9 | 21 | Fields of quotients |
| Fri, Oct 11 | 21 | Continued |
| Mon, Oct 14 | 22 | Rings of Polynomials |
| Wed, Oct 16 | 22 | Continued |
| Fri, Oct 18 | 23 | Factoring Polynomials over a Field |
| Mon, Oct 21 | 23 | Continued |
| Wed, Oct 23 | 26 | Homomorphisms and Factor Rings |
| Fri, Oct 25 | 26 | Continued |
| Mon, Oct 28 |  | Review |
| Wed, Oct 30 |  | **Midterm** |
| Fri, Nov 1 | 27 | Prime and Maximal Ideals |
| Mon, Nov 4 | 27 | Continued |
| Wed, Nov 6 | 29 | Field Extensions |
| Fri, Nov 8 | 29 | Continued |
| Wed, Nov 13 | 30 | Vector Spaces |
| Fri, Nov 15 | 31 | Algebraic Extensions |
| Mon, Nov 18 | 31 | Continued |
| Wed, Nov 20 | 33 | Finite Fields |
| Fri, Nov 22 | 45 | Unique Factorization Domains |
| Mon, Nov 25 | 45 | Continued |
| Wed, Nov 27 | 46 | Euclidean Domains |
| Mon, Dec 2 |  | Review |
| Wed, Dec 4 |  | Review |
| Fri, Dec 6 |  | **Final** |
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