Quarter-By-Quarter Graduation Plan

For the Teaching Concentration: TENTATIVE for the 17/19 catalog

Directions: On the following page is a graduation plan template. Use the checklist on pages 3-5 of this handout to fill in the template with your own graduation plan. As you choose classes, pay attention to pre-requisites and make sure that the course you are interested in is actually offered in the quarter in which you plan to take it (this information can be found on the checklist). In the first row, list the courses you have already taken, courses you are currently taking, and courses covered by AP credit (if you need more space, use the second row as well). If you need more years, download another copy of the template. After you have worked out a plan, take it to your math department advisor and have them look it over with you and sign it (you should give yourself some time to do this since your advisor’s schedule and yours might not align immediately). Turn in your completed and signed graduation plan and checklist in class on 11/28.
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List courses already taken or currently taking and courses covered by AP credit.
Check list for the Teaching Concentration: TENTATIVE!

Use these sheets to ensure that you have fulfilled the requirements of the math major under the Teaching Concentration for the 17-19 catalog. This curriculum has been approved by the department but is still under review at the college level. In addition, information about prerequisites and by quarter offerings for other departments is tentative.

**Core Courses:** Every math major is required to take each of the following courses. Be sure to note the prerequisites (listed with each course) as well as the quarters in which the course is offered. All courses are 4 credits unless otherwise listed.

- □ 141 Calculus I (Summer, Fall, Winter, or Spring)
- □ 142 Calculus II (Summer, Fall, Winter, or Spring; after C− or better in 141)
- □ 143 Calculus III (Summer, Fall, Winter, or Spring; after C− or better in 142)
- □ 202 Orientation to Math Major (Fall or Spring; after 143) (1 unit)
- □ 206 Linear Algebra I (Summer, Fall, Winter, or Spring; after 143)
- □ 241 Calculus IV (Summer, Fall, Winter, or Spring; after 143)
- □ 242 Differential Equations (Winter or Spring; after 206 and 241)
- □ 248 Methods of Proof (Summer, Fall, Winter, or Spring; after 143)
- □ 306 Lin Algebra II (Fall, Winter, or Spring; after 206, 241, and 248 with C− or better)
- □ 336 Combinatorics (Fall or Winter; after 248 or Junior standing)
- □ 412 Analysis I (Fall or Winter; after 306)
- □ 459 Senior Seminar (recommended for teaching concentration) (Fall or Spring; after 306 and two other 300+ level courses in the major), or 460 Applied Senior Sem (TBA, probably Fall or Spring; after 306, 344, and CPE 101 or Math 350), or 461 Senior Project I (2 units) and 462 Senior Project II (2 units)
- □ 481 Abstract Algebra I (Fall or Winter; after 306 or 341)
- □ CPE 101 Comp Sci I (Fall or Spring)
- □ Phys 141 (Summer, Fall, Winter, or Spring; after Math 141 with C− or better and during or after Math 142)
- □ Phys 132 (Summer, Fall, Winter, or Spring; after Phys 141), or Phys 133 (Summer, Fall, Winter, or Spring; after Phys 141 and Math 142)
Teaching Concentration: Choose courses below as indicated in each section. You may not use the same course in more than one section (or any course used above). Be sure to note the prerequisites (listed with each course) as well as the quarters in which the course is offered.

Take each of the following

- SCM 300 Early Field Experience I (Fall, Winter, or Spring; sophomore standing)
- Math 300 Tech in Math Ed (Fall; after 248)
- Stat 301 (Fall or Winter; after Math 141)
- Stat 302 (Winter or Spring; after Stat 301), Stat 305 (for 13-15 catalog was 325) (Fall or Winter; after Math 142 and CPE 101), or Stat 425 (Fall; after Math 241 and 248, recommended Stat 301 and 305)
- 341 Number Theory (Fall or Spring; after 248 with C− or better)
- 419 History of Math (Winter; 248 with C− or better and at least one 300+ level math course)
- 423 Advanced Math for Teaching (Spring; after 442 and 481)
- 442 Euclidean Geometry (Winter; after 248 with C− or better, recommended 300)
- 443 Modern Geometry (Spring; after 442)
- 482 Abstract Algebra II (Winter or Spring; after Math 481)

Take one of the following

- 459 Senior Seminar (Fall or Spring; after 306 and two other 300+ level courses in the major; not open to students with credit in 460)
- 460 Applied Senior Seminar (TBA, probably Fall or Spring; after 306, 344, and CPE 101 or Math 350; not open to students with credit in 459)
- Math 461 Senior Project I (2 units) and 462 Senior Project II (2 units)

Take one of the following

- CPE 102 Comp Sci II (Fall, Winter, or Spring; after CPE 101 with C− or better and Math 141 with C− or better)
- Math 304 Vector Calculus (Winter or Spring; after 206 and 241)
- Math 335 Graph Theory (Fall 2017 or Fall 2019; after 248 or Junior standing)
- Math 344 Linear Analysis II (Fall, Winter or Spring; after 206 and 242)
- Math 406 Linear Algebra III (Spring; after 306)
- Math 408 Complex Analysis I (Fall; after 242)
- Math 413 Analysis II (Winter; after 412)
- 416 Differential Equations II (Fall 18, 20 or Winter 18, 120; after 206 and 242)
- Math 435 Discrete Math I (Fall; after 248 with C− or better and 336)
- Math 437 Game Theory (Spring; after 206 and 248 with C− or better)
- Math 440 Topology I (Winter; after 412 and after or during 481)
- Math 451 Numerical Analysis I (Winter; after 206, 242, and CPE 101)
- Math 470 Selected Advanced Topics (TBD) (1-4 units)
- Phys 132 Physics II (Summer, Fall, Winter, or Spring; after Phys 141)
- Phys 133 Physics III (Summer, Fall, Winter, or Spring; after Phys 141 and Math 142, recommended Math 241)
- Phys 302 Classical Mechanics (Fall; after Phys 141 and Math 241 and Math 242)
General Education Requirements:
See http://www.ge.calpoly.edu/studentsandadvisors/allgecourses.html for a complete list of available courses along with the various requirements. Note that KINE 250 or KINE 443 is required before, during, or after the credential program and also satisfies GE requirement D4.

Area A: Communication
□ A1 Engl 133/134
□ A2 Coms 101/102
□ A3 Reason, Arg & Writing

Area B: Science and Math
□ B2 Life Science

Area C: Arts and Humanities
□ C1 Literature
□ C2 Philosophy: Phil 230/231
□ C3 Fine/Perf Arts
□ C4 Upper-division elective
□ C1-C4 Elective

Area D/E: Society and the Individual
□ D1 American Exp
□ D2 Political Economy
□ D3 Comparative Social Inst
□ D4 Self Development  KINE 250
□ D5 Upper-division elective

Area F: Technology
□ Upper division

Teaching Concentration Free electives: You must have at least 180 units total to graduate with a Math Major from Cal Poly. For the Teaching Concentration, this requires 11 more units. These can consist of any Cal Poly courses, AP credits, or transfer credits which are not used above.

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