Quarter-By-Quarter Graduation Plan

For the General Curriculum

Directions: On the following page is a graduation plan template. Use the checklist on pages 3-7 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 11/6.
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<th>Math Department</th>
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<td>Advisor's Name:</td>
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<td>Math Department</td>
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<td>Advisor's Signature:</td>
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Check list for the General Curriculum

Use these sheets to ensure that you have fulfilled the requirements of the math major under the general curriculum.

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)
- □ 412 Analysis I (Fall or Winter; after 306)
- □ 459 Senior Seminar (Fall or Spring; after 306 and two other 300+ level courses in the major), or 460 Applied Senior Sem (Fall; after 306, 344, and CPE 101 or Math 350)
- □ 461 Senior Project I (senior standing) (2 units)
- □ 462 Senior Project II (senior standing) (2 units)
- □ 481 Abstract Algebra I (Fall or Winter; after 306 or 341)
- □ 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)
General Curriculum required courses: 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.

- CPE 101 Comp Sci I (Fall or Spring)
- Stat 301 (Fall or Winter; after Math 141), or Stat 305 (Fall or Winter; after Math 142 and CPE 101), or Stat 425 (Fall; after Math 241 and 248, recommended Stat 301 and 305)
- Math 336 Combinatorics (Fall or Winter; after 248 or Junior standing)

General Curriculum Tracks: Choose three tracks, at least one from the first two listed. Be sure to note the prerequisites (listed with each course) as well as the quarters in which the course is offered. A single course cannot be used to satisfy multiple tracks.

- 413 Analysis II (Winter; after 412), and 414 Analysis III (Spring; after 413)
- 406 Linear Algebra III (Spring; after 306) and 482 Abstract Algebra II (Winter or Spring; after Math 481)

- 304 Vector Calculus (Winter or Spring; after 206 and 241), and 404 Differential Geometry (Fall 2019 or Fall 2021; after 304)
- 335 Graph Theory (Fall 2019 or Fall 2021; after 248 or Junior standing), and 435 Discrete Math I (Fall; after 248 with C− or better and 336)
- 344 Linear Analysis II (Fall, Winter, or Spring; after 206 and 242) and 416 Differential Equations II (Fall 18, 20 or Winter 18, 20; after 206 and 242) or 418 Partial Differential Equations (Fall or Spring; after 344, recommended 304)
- 350 Math Software (Spring; after 206, 241, and a college level programming course) and 341 Number Theory (Fall or Spring; after 248 with C− or better) or 344 Linear Analysis II (Fall, Winter, or Spring; after 206 and 242)
- 408 Complex Analysis I (Fall; after 242), and 409 Complex Analysis II (Winter; after 408)
- 437 Game Theory (Spring; after 206 and 248 with C− or better), and 453 Numerical Optimization (Spring 2018 or Spring 2020; after 306 and 451)
- 440 Topology I (Winter; after 412 and after or during 481), and 441 Topology II (Spring; after 440) (Unavailable beginning Fall 2017 since Math 441 becomes Math 541, graduate level)
- 442 Euclidean Geom (Winter; after 248 with C− or better, recommended Math 300), and 443 Modern Geom (Spring; after 442)
- 451 Numerical Analysis I (Winter; after 206, 242, and a college level programming course), and 452 Numerical Analysis II (Spring 2019 or Spring 2021; after 451)
General Curriculum Electives: Choose at least 12 units from the following. You may not choose classes used above. Be sure to note the prerequisites (listed with each course) as well as the quarters in which the course is offered.

Math options:

- □ 304 Vector Calculus (Winter or Spring; after 206 and 241) (4 units)
- □ 335 Graph Theory (Fall 2019 or Fall 2021; after 248 or Junior standing) (4 units)
- □ 341 Number Theory (Fall or Spring; after 248 with C− or better) (4 units)
- □ 344 Linear Analysis II (Fall, Winter, or Spring; after 206 and 242) (4 units)
- □ 350 Math Software (Spring; after 206, 241, and a college level programming course) (4 units)
- □ 404 Differential Geometry (Fall 2019 or Fall 2021; after 304) (4 units)
- □ 406 Linear Algebra III (Spring; after 306) (4 units)
- □ 408 Complex Analysis I (Fall; after 242) (4 units)
- □ 409 Complex Analysis II (Winter; after 408) (4 units)
- □ 413 Analysis II (Winter; after 412) (4 units)
- □ 414 Analysis III (Spring; after 413) (4 units)
- □ 416 Differential Equations II (Fall 18, 20 or Winter 18, 20; after 206 and 242) (4 units)
- □ 418 Partial Differential Equations (Fall or Spring; after 344, recommended Math 304) (4 units)
- □ 419 History of Math (Winter; 248 with C− or better and at least one 300+ level math course) (4 units)
- □ 435 Discrete Math I (Fall; after 248 with C− or better and 336) (4 units)
- □ 436 Discrete Math II (Winter; after 435 and after or during 482) (4 units)
- □ 437 Game Theory (Spring; after 206 and 248 with C− or better) (4 units)
- □ 440 Topology I (Winter; after 412 and after or during 481) (4 units)
- □ 441 Topology II (Spring; after 440) (4 units)
- □ 442 Euclidean Geometry (Winter; after 248 with C− or better, recommended Math 300) (4 units)
- □ 443 Modern Geometry (Spring; after 442) (4 units)
- □ 451 Numerical Analysis I (Winter; after 206, 242, and a college level programming course) (4 units)
- □ 452 Numerical Analysis II (Spring 2019 or Spring 2021; after 451) (4 units)
- □ 453 Numerical Optimization (Spring 2018 or Spring 2020; after 306 and 451) (4 units)
- □ 470 Selected Advanced Topics (TBD) (1-4 units)
- □ 482 Abstract Algebra II (Winter or Spring; after 481) (4 units)

Computer Science options:

- □ CPE 202 Comp Sci II (formerly 103 in 15-17 catalog) (Fall or Winter; after CPE 101 with C− or better and Math 141 with C− or better) (4 units)
- □ CPE 203 Comp Sci III (formerly 102 in 15-17 catalog) Winter or Spring; after CPE 202 with C− or better) (4 units)
- □ CSC 349 Algorithms (Fall or Spring; after CPE 203 (formerly 102) and Math 248) (4 units) (more on next page)
Physics options:

- □ 132 Physics II (Summer, Fall, Winter, Spring or Summer; after Phys 141) (4 units)
- □ 133 Physics III (Summer, Fall, Winter, Spring or Summer; after Phys 141 and Math 142, recommended Math 241) (4 units)
- □ 211 Modern Physics I (Fall, Winter, or Spring; after Phys 132, 133, and Math 241) (4 units)
- □ 301 Thermal Physics I (Winter; after Phys 211) (4 units)
- □ 302 Classical Mechanics I (Fall; after Phys 141 and Math 241 and Math 242) (4 units)
- □ 322 Vibrations/Waves (Fall; after Phys 132 and Math 242, recommended Math 344) (3 units)
- □ 323 Optics (Winter; after Phys 133, 322, and Math 241) (4 units)
- □ 405 Quantum Mech I (Spring; after Phys 212, 302, 322 and Math 241, 242, recommended Math 344) (4 units)
- □ 408 Electromag Fields/Waves I (Fall; after Phys 133 and Math 304) (4 units)

Statistics options:

- □ 301 Stats I (Fall, or Winter; after Math 141) (4 units)
- □ 302 Stats II (Winter, or Spring; after Stat 301) (4 units)
- □ Stat 305 Intro to Probability (Fall or Winter; after Math 142 and CPE 101) (4 units)
- □ 425 Probability Theory (Fall; after Math 241 and 248, recommended Stat 301, 305) (4 units)
- □ 426 Est and Samp Theory (Winter; after Stat 425, recommended Stat 302) (4 units)
- □ 427 Mathematical Statistics (Spring; after Stat 426) (4 units)
General Education Requirements:
See http://www.ge.calpoly.edu/studentsandadvisors/allgecourses.html for a complete list of available courses along with the various requirements.

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

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

Area F: Technology
- □ Upper division

General Free electives: You must have at least 180 units total to graduate with a Math Major from Cal Poly. For the General Curriculum, this requires **15 more units**. These can consist of any Cal Poly courses, AP credits, or transfer credits which are **not used above**.

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