CLAS C&C

Agenda

Chair: Pamela Bedore

2.19.2019

**A. Discussion: General Education Reform (3:30-4:00 PM)**

Please review the draft proposed structure of a new general education curriculum. We will take thirty minutes to discuss with members of the Delta General Education working group.

**B. Announcements (4:00 PM)**

1. Thank you for questions regarding the timing of approvals for Environmental Literacy (E) courses. When a course is approved as fulfilling Environmental Literacy by the Senate (after college, GEOC, and Senate C&C review), the E designation will be added to the course retroactive to 1994. This is the same process as that used for CA courses.

**C. Approvals by the Chair**

2019-85 EEB 3895 Add Special Topic: Current Issues in Environmental Science

2019-86 HDFS 1083     Add Factotum Course: Foreign Study (S)

2019-87 HDFS 2083     Add Factotum Course: Foreign Study (S)

**D. New Business (4:00-5:30 PM)**

2019-88 GEOG 1300E Revise Course (guest: Anji Seth) (G) (S)

2019-89 ASLN 3650                 Revise Course (guest: Linda Pelletier)

2019-90 POLS 5625             Add Course (guest: Jane Gordon)

2019-91 POLS 5630      Add Course (guest: Jane Gordon) (S)

2019-92 EEB 5480                   Add Course (guest: Margaret Rubega)

2019-93 EEB 5482                   Add Course (guest: Margaret Rubega)

2019-94 GEOG 5512 Add Course (guest: Chuanrong (Cindy) Zhang)

2019-95 GEOG 2200                Revise Course (G) (S)

2019-96 GEOG/GSCI 1070E   Revise Course (G) (S)

2019-97 GEOG/GSCI 2310E   Revise Course (G) (S)

2019-98 GEOG/GSCI 4150     Add Course

2019-99 GEOG/GSCI 5150     Add Course

2019-100 AMST/HIST 2810     Revise Course (G) (S)

2019-101 ECON 1107E Revise Course (G) (S)

2019-102 ECON 3466E Revise Course (G) (S)

2019-103 ECON 4323 Add Course

2019-78 ECON 5323 Add Course

2019-79 ECON 5501 Add Course

2019-80 ECON 5502 Add Course

2019-104 ECON Revise Major

2019-105 MCB 3210                  Drop Course

2019-106 MCB 5210 Drop Course

2019-107 MCB 3844W      Add Course (G) (S)

2019-108 MCB 5077      Add Course

2019-109 PHYS  Revise Major

2019-110 SOCI/WGSS 5613 Add Course

**D. Discussion**

Some Thoughts about BS Requirements (Knecht)

**CATALOG COPY:**

**2019-88 GEOG 1300E Revise Course (guest: Anji Seth) (G) (S)**

*Current Copy:*

GEOG 1300. Climate, Weather, and the Environment

Three credits.

Interactions between weather and climate and the human and natural environment. Emphasis on understanding the linkages between natural processes and societal/environmental issues.

*Proposed Copy:*

GEOG 1300E. Climate, Weather, and the Environment

Three credits.

Interactions between weather and climate and the human and natural environment. Emphasis on understanding the linkages between natural processes and societal/environmental issues. CA 3.

**2019-89 ASLN 3650                 Revise Course (guest: Linda Pelletier)**

*Current Copy:*

ALSN 3650. Deaf Writers and American Sign Language Literature

Three credits. Prerequisite: ASLN 1102. Simons

Discussion of deaf, hard of hearing, and hearing scholars in the examination of original ASL poetry. Critical examination of comparative literature in the Deaf Community and linguistic themes from different perceptions and analyses.

*Proposed Copy:*

ASLN 3650. Deaf Writers and American Sign Language Literature

Three credits. Prerequisite: ASLN 1104; others by instructor consent.

Discussion of deaf, hard of hearing, and hearing scholars in the examination of original ASL poetry. Critical examination of comparative literature in the Deaf Community and linguistic themes from different perceptions and analyses.

**2019-90 POLS 5625             Add Course (guest: Jane Gordon)**

*Proposed Copy:*

POLS 5625. POLS Professional Development

Three credits. Required for 5th Year MA students. Does not fulfill Methods or Subfield course requirements for POLS PhD students.

Exploration of careers that involve researching and thinking about politics.

**2019-91 POLS 5630      Add Course (guest: Jane Gordon) (S)**

*Proposed Copy:*

POLS 5630. Prospectus and Dissertation Writing Seminar.

One to three credits. May be repeated to a total of ten credits. Students taking this course will be assigned a grade of S (satisfactory) or U (unsatisfactory).

Writing workshop facilitates prospectus and dissertation writing.

**2019-92 EEB 5480                   Add Course (guest: Margaret Rubega)**

*Proposed Copy:*

EEB 5480. Science Communication I: Speaking to Public Audiences.

Three credits. Intended for graduate students in a STEM field or advanced undergraduates with experience in STEM research or journalism. Instructor consent required.

Readings from the primary literature on factors influencing the success of science communications, analysis of video examples of science communicators, and discussion of the relationship of scientists to the press, public and specialized audiences. Students participate in class exercises and video-record mock interviews, work directly with journalists, write social media posts, and exchange constructive feedback on their own and others' speaking and interview skills.

**2019-93 EEB 5482                   Add Course (guest: Margaret Rubega)**

*Proposed Copy:*

EEB 5492. Science Communication II: Writing for Public Audiences.

Three credits. Intended for graduate students in a STEM field or advanced undergraduates with experience in STEM research or journalism. Instructor consent required.

Readings from the primary literature on factors influencing the success of science communications, analysis of science writings for public audiences, and discussion of the relationship of scientists to the public and specialized audiences. Class exercises, writing about science in a variety of styles accessible to non-scientists, including social media posts. Develop graphical data illustrations, and exchange constructive feedback with peers on writing skills.

**2019-94 GEOG 5512 Add Course (guest: Chuanrong (Cindy) Zhang)**

*Proposed Copy:*

GEOG 5512. Introduction to Spatial Data Science

Three credits. Prerequisite: GEOG 5500 or instructor consent.

Introduction to the fundamentals of spatial data science. Students will learn how to apply a high-level programming language—R—for spatial data analysis, visualization and modeling.

**2019-95 GEOG 2200                Revise Course (G) (S)**

*Current Copy:*

GEOG 2200: Introduction to Human Geography.

Three credits.

Geographic perspectives on the relationships between human behavior/activities, and the physical, economic, and cultural environments.

*Proposed Copy:*

GEOG 2200: Introduction to Human Geography.

Three credits.

Geographic perspectives on the relationships between human behavior/activities, and the physical, economic, and cultural environments. CA2, CA4-INT.

**2019-96 GEOG/GSCI 1070E   Revise Course (G) (S)**

*Current Copy:*

GSCI 1070. Natural Disasters and Environmental Change

(Also offered as GEOG 1070.)

Three credits. Not open for credit to students who have passed GSCI 1010, 1050, 1051, 1055. Students who complete both this course and GSCI 1052 may request that GSCI 1070 be converted to a CA 3 laboratory course.

Climate change, global warming, natural hazards, earth surface processes, and the impact these have on populations now and in the past. CA 3.

*Proposed Copy:*

GSCI 1070E. Natural Disasters and Environmental Change

(Also offered as GEOG 1070.)

Three credits. Not open for credit to students who have passed GSCI 1010, 1050, 1051, 1055. Students who complete both this course and GSCI 1052 may request that GSCI 1070 be converted to a CA 3 laboratory course.

Climate change, global warming, natural hazards, earth surface processes, and the impact these have on populations now and in the past. CA 3.

**2019-97 GEOG/GSCI 2310E   Revise Course (G) (S)**

*Current Copy:*

GSCI 2310. National Parks Unearthed: Geology and Landscapes through Time

(Also offered as GEOG 2310.)

Three credits.

Geologic processes that shape the Earth’s landscapes and interior through the study of National Parks, Monuments, and Seashores. Plate tectonics, climate and biotic change, natural hazards and resources, and environmental conservation.

*Proposed Copy:*

GSCI 2310E. National Parks Unearthed: Geology and Landscapes through Time

(Also offered as GEOG 2310E.)

Three credits.

Geologic processes that shape the Earth’s landscapes and interior through the study of National Parks, Monuments, and Seashores. Plate tectonics, climate and biotic change, natural hazards and resources, and environmental conservation.

**2019-98 GEOG/GSCI 4150     Add Course**

*Proposed Copy:*

GSCI 4150. Spatial Data Analysis using R

(also offered as GEOG 4150)

Three credits. Recommended preparation: STAT 1000Q or 1100Q; GEOG 3500Q. Open to juniors or higher.

Multivariate spatial analysis methods and statistical inference, emphasizing how to translate conceptual understanding into computer code.

**2019-99 GEOG/GSCI 5150     Add Course**

*Proposed Copy:*

GSCI 5150. Spatial Data Analysis using R

(also offered as GEOG 5150)

Three credits. Recommended preparation: STAT 1000Q or 1100Q, GEOG 3500Q. Not open for credit to students who have passed GEOG 4150 or GSCI 4150.

Multivariate spatial analysis methods and statistical inference, emphasizing how to translate conceptual understanding into computer code.

**2019-100 AMST/HIST 2810     Revise Course (G) (S)**

*Current Copy:*

HIST 2810. Crime, Policing, and Punishment in the United States

Three credits.

A survey of political, legal, and cultural development of the American criminal justice system and its social impact from the early republic to the present.

*Proposed Copy:*

HIST 2810. Crime, Policing, and Punishment in the United States

(also offered as AMST 2810.)

Three credits.

A survey of political, legal, and cultural development of the American criminal justice system and its social impact from the early republic to the present. CA1-C.

**2019-101 ECON 1107E Revise Course (G) (S)**

*Current Copy:*

ECON 1107. Honors Core: Economics, Nature, and the Environment

Three credits.

Impact of nature on societies; effects of geography and climate on economic development and income inequality. Impact of humans on their environment; environmental problems; collapse of societies; sustainable development. CA 2.

*Proposed Copy:*

ECON 1107E. Honors Core: Economics, Nature, and the Environment

Three credits. Open to honors students; others by permission.

Impact of nature on societies; effects of geography and climate on economic development and income inequality. Impact of humans on their environment; environmental problems; collapse of societies; sustainable development. CA 2.

**2019-102 ECON 3466E Revise Course (G) (S)**

*Current Copy:*

ECON 3466. Environmental Economics

Three credits. Prerequisite: ECON 2201 or 2211Q.

Application of economic reasoning to environmental issues. Topics include air and water pollution and the management of natural resources; market failure and environmental regulation; market-based mechanisms; cost-benefit analysis, environmental valuation, and program evaluation; environmental justice from an economic perspective.

*Proposed Copy:*

ECON 3466E. Environmental Economics

Three credits. Prerequisite: ECON 2201 or 2211Q.

Application of economic reasoning to environmental issues. Topics include air and water pollution and the management of natural resources; market failure and environmental regulation; market-based mechanisms; cost-benefit analysis, environmental valuation, and program evaluation; environmental justice from an economic perspective.

**2019-103 ECON 4323 Add Course**

*Proposed Copy:*

ECON 4323. Convex Analysis with Python.

Three credits. Prerequisites: ECON 2201 or 2211Q; MATH 1125Q or 1131Q or 1151Q, or 2141Q.

Methods of convex optimization, including linear, quadratic, and general constrained and unconstrained problems. Applications, using Python, in economics and finance.

**2019-78 ECON 5323 Add Course**

*Proposed Copy:*

ECON 5323. Convex Analysis with Python.

Three credits. Open to students in the Master of Science in Quantitative Economics; others by consent. Not open for credit to students who have passed ECON 4323.

Methods of convex optimization, including linear, quadratic, and general constrained and unconstrained problems. Applications, using Python, in economics and finance.

**2019-79 ECON 5501 Add Course**

*Proposed Copy:*

ECON 5501. Writing and Communication for Economics and Business I.

Two credits. Open to students in the Master of Science in Quantitative Economics (MSQE) program; others by permission.

Practice in written and oral communication of economic ideas. Development of skills and techniques for success in business and professional environments.

**2019-80 ECON 5502 Add Course**

*Proposed Copy:*

ECON 5502. Writing and Communication for Economics and Business II.

One credit. Prerequisite: ECON 5501.

Application of skills from ECON 5501 to writing and presenting a research paper developed in a third-semester MSQE course.

**2019-104 ECON Revise Major**

*Current Copy:*

A student majoring in economics should acquire a thorough grounding in basic principles and methods of analysis, plus a working competence in several of the specialized and applied fields. Examples of such fields are industrial organization, law and economics, money and banking, international trade and finance, public finance, labor economics, health economics, urban and regional economics, and economic development. The major in economics can lead to either a Bachelor of Arts or a Bachelor of Science degree.

Course work in economics serves a wide variety of vocational objectives. An economics major (supplemented by a rigorous calculus and statistics course sequence) is excellent preparation for graduate work in economics, which qualifies a person for academic, business, or government employment. Majors and others with strong economics training are attractive prospects for business firms and government agencies, and for professional graduate study in business or public policy. An economics background is especially desirable for the study and practice of law. The economics B.S. is recommended for students interested in professions that call for quantitative skills. The B.S. is especially recommended for Honors students and students considering graduate school in economics or other quantitative areas.

For an economics major that leads to a Bachelor of Arts degree, students must earn twenty-four credits in courses at the 2000 level or above, including two intermediate theory courses (ECON 2201 or 2211Q and 2202 or 2212Q), plus at least nine credits in either quantitative skills courses (ECON 2301- 2328) and/or ECON courses at the 3000 level or above. No more than six credits in ECON 2499 and/or 3499 may be counted toward the required 24 credits in economics courses at the 2000 level or above. ECON 2481 does not count toward fulfilling the major requirements.

Economics B.A. majors are also required to pass twelve credits in 2000-level or above courses in fields related to economics or to fulfill a minor related to economics. In addition, all Economics majors must take STAT 1000Q or 1100Q and one of the following: MATH 1071Q, 1110Q, 1126Q, 1131Q, 1151Q or 2141Q. MATH 1125Q or higher is recommended, and STAT 1100Q is recommended over STAT 1000Q. ECON 2311 is a recommended course for the B.A. Students may substitute more advanced MATH and STAT courses with consent of the faculty advisor.

For an economics major that leads to a Bachelor of Science degree, students must take STAT 1000Q or 1100Q (STAT 1100Q is recommended over STAT 1000Q) and one of the following MATH sequences: MATH 1125Q, 1126Q, and 1132Q; MATH 1131Q (or 1151Q) and 1132Q (or 1152Q); or MATH 2141Q and 2142Q. In addition, B.S. majors must also take one of the following: MATH 2110Q or 2130Q or 2210Q or 2410Q or 2420Q. Students may substitute more advanced MATH and STAT courses with consent of the advisor.

B.S. students must take one of the following science sequences in Biology, Chemistry, or Physics:

1. Biology: BIOL 1107 and either BIOL 1108 or 1110.
2. Chemistry: CHEM 1124Q, 1125Q, 1126Q; or CHEM 1127Q, 1128Q; or CHEM 1137Q, 1138Q; or CHEM 1147Q, 1148Q.
3. Physics: PHYS 1201Q, 1202Q; or PHYS 1401Q, 1402Q; or PHYS 1501Q, 1502Q; or PHYS 1601Q, 1602Q.

One of these courses may be used to fulfill the CA 3 lab requirement of the University’s general education requirements. In addition, students must take one other CA 3 course from a different subject area, but it need not be a lab course.

B.S. majors must also earn 29 credits in courses at the 2000-level or above, including two quantitative intermediate theory courses (ECON 2211Q and 2212Q); a sequence in econometrics (ECON 2311 and 2312); and at least six credits from the following modeling and methods courses: ECON 2301, 2326, 2327, 3208, 3313, 3315, 4206. Students may substitute equivalent graduate-level courses with consent of the advisor. B.S. majors may fulfill the requirement for ECON 2211Q and ECON 2212Q by taking ECON 2201, ECON 2202, and ECON 2301, in which case ECON 2301 cannot be used to fulfill the requirement for six credits in modeling and methods courses. B.S. majors may not count ECON 2481 toward the major, nor may they count more than six credits in ECON 2499 and/or 3499.

B.S. majors are also required to pass 12 credits in 2000-level or above courses in a field or fields related to economics. These related area courses may count toward a minor in a field related to economics.

For both the B.A. and B.S., the intermediate theory courses (ECON 2201 or 2211Q and ECON 2202 or 2212Q) should be taken early in the student’s major program. The department has special requirements for economic majors in the University Honors Program.

Economics majors satisfy the information literacy competency by passing at least one W course in Economics. Students may gain enhanced competence in information literacy by taking ECON 2311, 2312W, 2326, or 2327. Economics majors satisfy the writing in the major requirement by passing at least one W course in Economics. A minor in Economics is described in the “Minors” section.

*Proposed Copy:*

A student majoring in economics should acquire a thorough grounding in basic principles and methods of analysis, plus a working competence in several of the specialized and applied fields. Examples of such fields are industrial organization, law and economics, money and banking, international trade and finance, public finance, labor economics, health economics, urban and regional economics, and economic development. The major in economics can lead to either a Bachelor of Arts or a Bachelor of Science degree.

Course work in economics serves a wide variety of vocational objectives. An economics major (supplemented by a rigorous calculus and statistics course sequence) is excellent preparation for graduate work in economics, which qualifies a person for academic, business, or government employment. Majors and others with strong economics training are attractive prospects for business firms and government agencies, and for professional graduate study in business or public policy. An economics background is especially desirable for the study and practice of law. The economics B.S. is recommended for students interested in professions that call for quantitative skills. The B.S. is especially recommended for Honors students and students considering graduate school in economics or other quantitative areas.

For an economics major that leads to a Bachelor of Arts degree, students must earn twenty-four credits in courses at the 2000 level or above, including two intermediate theory courses (ECON 2201 or 2211Q and 2202 or 2212Q), plus at least nine credits in either quantitative skills courses (ECON 2301- 2328) and/or ECON courses at the 3000 level or above. No more than six credits in ECON 2499 and/or 3499 may be counted toward the required 24 credits in economics courses at the 2000 level or above. ECON 2481 does not count toward fulfilling the major requirements.

Economics B.A. majors are also required to pass twelve credits in 2000-level or above courses in fields related to economics or to fulfill a minor related to economics. In addition, all Economics majors must take STAT 1000Q or 1100Q and one of the following: MATH 1071Q, 1110Q, 1126Q, 1131Q, 1151Q or 2141Q. MATH 1125Q or higher is recommended, and STAT 1100Q is recommended over STAT 1000Q. ECON 2311 is a recommended course for the B.A. Students may substitute more advanced MATH and STAT courses with consent of the faculty advisor.

For an economics major that leads to a Bachelor of Science degree, students must take STAT 1000Q or 1100Q (STAT 1100Q is recommended over STAT 1000Q) and one of the following MATH sequences: MATH 1125Q, 1126Q, and 1132Q; MATH 1131Q (or 1151Q) and 1132Q (or 1152Q); or MATH 2141Q and 2142Q. In addition, B.S. majors must also take one of the following: MATH 2110Q or 2130Q or 2210Q or 2410Q or 2420Q. Students may substitute more advanced MATH and STAT courses with consent of the advisor.

B.S. students must take one of the following science sequences in Biology, Chemistry, or Physics:

1. Biology: BIOL 1107 and either BIOL 1108 or 1110.
2. Chemistry: CHEM 1124Q, 1125Q, 1126Q; or CHEM 1127Q, 1128Q; or CHEM 1137Q, 1138Q; or CHEM 1147Q, 1148Q.
3. Physics: PHYS 1201Q, 1202Q; or PHYS 1401Q, 1402Q; or PHYS 1501Q, 1502Q; or PHYS 1601Q, 1602Q.

One of these courses may be used to fulfill the CA 3 lab requirement of the University’s general education requirements. In addition, students must take one other CA 3 course from a different subject area, but it need not be a lab course.

B.S. majors must also earn 29 credits in courses at the 2000-level or above, including two quantitative intermediate theory courses (ECON 2211Q and 2212Q); a sequence in econometrics (ECON 2311 and 2312); and at least six credits from the following modeling and methods courses: ECON 2301, 2326, 2327, 3208, 3313, 3315, 4206, **4323.** Students may substitute equivalent graduate-level courses with consent of the advisor. B.S. majors may fulfill the requirement for ECON 2211Q and ECON 2212Q by taking ECON 2201, ECON 2202, and ECON 2301, in which case ECON 2301 cannot be used to fulfill the requirement for six credits in modeling and methods courses. B.S. majors may not count ECON 2481 toward the major, nor may they count more than six credits in ECON 2499 and/or 3499.

B.S. majors are also required to pass 12 credits in 2000-level or above courses in a field or fields related to economics. These related area courses may count toward a minor in a field related to economics.

For both the B.A. and B.S., the intermediate theory courses (ECON 2201 or 2211Q and ECON 2202 or 2212Q) should be taken early in the student’s major program. The department has special requirements for economic majors in the University Honors Program.

Economics majors satisfy the information literacy competency by passing at least one W course in Economics. Students may gain enhanced competence in information literacy by taking ECON 2311, 2312W, 2326, or 2327. Economics majors satisfy the writing in the major requirement by passing at least one W course in Economics. A minor in Economics is described in the “Minors” section.

**2019-105 MCB 3210                  Drop Course**

*Current Copy:*

MCB 3210. Molecular Endocrinology

(Also offered as [PNB 3270](https://catalog.uconn.edu/PNB/#3270).)

Three credits. Prerequisite: [BIOL 1107](https://catalog.uconn.edu/BIOL/#1107); open to juniors and seniors only. Recommended preparation: [PNB 3262](https://catalog.uconn.edu/PNB/#3262).

Molecular mechanism(s) of hormone action in vertebrates and invertebrates. Molecular and genetic characterization of hormones, receptors, and signal transduction, and hormone actions at the molecular, cellular, and organismal levels. Includes student presentations on selected papers.

**2019-106 MCB 5210 Drop Course**

*Current Copy:*

### MCB 5210. Molecular Endocrinology

(Also offered as [PNB 5270](https://gradcatalog.uconn.edu/PNB/#5270).) Three credits.

Molecular mechanism(s) of hormone action in vertebrates and invertebrates. Molecular and genetic characterization of hormones, receptors, and signal transduction, and hormone actions at the molecular, cellular, and organismal levels. Includes student presentations on selected papers.

**2019-107 MCB 3844W      Add Course (G) (S)**

*Proposed Copy:*

MCB 3844W. Microbiology and the Media

Prerequisites: ENGL 1010 or 1011 or 2011; at least two MCB courses at the 2000 level or above. Open only to MCB and Biological Sciences majors; others by permission.

How the media portrays microbiological topics to the general public, the types of response that the public at large might have to mass media representation contrasted with how the scientific community discusses topics of microbial importance particularly in the form of “the scientific paper.” The goal is to understand how the popular perception of science contrasts with the rigor that goes into the scientific literature.

**2019-108 MCB 5077      Add Course**

*Proposed Copy:*

MCB 5077. Practicum in NMR Spectroscopy.

One credit. Lecture and laboratory. Recommended Preparation: MCB 5076 or MCB 2000 or MCB 3010. Instructor consent required.

Hands-on training in heteronuclear 15N- and 13C-NMR spectroscopy of biomolecules. Topics include protein folding, protein dynamics, binding of ligands to proteins, and protein structure determination.

**2019-109 PHYS  Revise Major**

*Current Copy:*

### Bachelor of Science, General Option

A total of 48 credits from 2000-level or above courses in physics, other sciences, mathematics, or engineering are required. Among these, 36 credits must be physics courses. The 36 credits of physics must include [PHYS 2300](https://catalog.uconn.edu/PHYS/#2300), [2501W](https://catalog.uconn.edu/PHYS/#2501W), [3101](https://catalog.uconn.edu/PHYS/#3101), [3201](https://catalog.uconn.edu/PHYS/#3201), [3202](https://catalog.uconn.edu/PHYS/#3202), [3300](https://catalog.uconn.edu/PHYS/#3300), and [3401](https://catalog.uconn.edu/PHYS/#3401), and at least three credits of an advanced laboratory ([PHYS 2502](https://catalog.uconn.edu/PHYS/#2502), [3150](https://catalog.uconn.edu/PHYS/#3150), or [4900](https://catalog.uconn.edu/PHYS/#4900)). It is strongly recommended that students going on to graduate school in physics take [PHYS 3402](https://catalog.uconn.edu/PHYS/#3402). All students are strongly encouraged to participate in an undergraduate research project. An experimental research project ([PHYS 4099](https://catalog.uconn.edu/PHYS/#4099)) may count towards the advanced laboratory requirement. No more than six credits from [PHYS 4099](https://catalog.uconn.edu/PHYS/#4099) may be counted towards this degree option. The general option for the Bachelor of Science degree requires a minimum of 12 credits from 2000-level or above related courses in mathematics, other sciences, or engineering.

### Bachelor of Science, Applied Option

A total of 48 credits from 2000-level or above courses in physics, other sciences, mathematics, or engineering are required. Among these, 30 credits must be physics courses. The 30 credits must include [PHYS 2300](https://catalog.uconn.edu/PHYS/#2300), [2501W](https://catalog.uconn.edu/PHYS/#2501W), [3101](https://catalog.uconn.edu/PHYS/#3101), [3201](https://catalog.uconn.edu/PHYS/#3201), and [3300](https://catalog.uconn.edu/PHYS/#3300), plus a minimum of nine credits from the following eight courses: [2502](https://catalog.uconn.edu/PHYS/#2502), [3150](https://catalog.uconn.edu/PHYS/#3150), [4140](https://catalog.uconn.edu/PHYS/#4140), [4150](https://catalog.uconn.edu/PHYS/#4150), [4210](https://catalog.uconn.edu/PHYS/#4210), [4350](https://catalog.uconn.edu/PHYS/#4350), [4900](https://catalog.uconn.edu/PHYS/#4900), and 5621, with at least three of the nine credits being from an advanced laboratory ([PHYS 2502](https://catalog.uconn.edu/PHYS/#2502), [3150](https://catalog.uconn.edu/PHYS/#3150), or [4900](https://catalog.uconn.edu/PHYS/#4900)). These eight courses involve the application of knowledge from multiple basic subjects, i.e., from mechanics, electricity and magnetism, statistical and thermal physics, and quantum mechanics. All students are strongly encouraged to participate in an undergraduate research project. An experimental research project ([PHYS 4099](https://catalog.uconn.edu/PHYS/#4099)) may count towards the advanced laboratory requirement.

The applied option for the Bachelor of Science degree requires a minimum of 12 credits from 2000-level or above related courses in mathematics, other sciences, or engineering. To complete the 48 total required credits for the applied option, the remaining six credits may come from 2000-level or above courses in physics, other sciences, mathematics, or engineering. No more than six credits from [PHYS 4099](https://catalog.uconn.edu/PHYS/#4099), may be counted towards this degree option.

### Bachelor of Arts

A total of 36 credits from 2000-level or above courses in physics, other sciences, mathematics, or engineering are required. Among these, 24 credits must be physics courses which must include [PHYS 2300](https://catalog.uconn.edu/PHYS/#2300), [2501W](https://catalog.uconn.edu/PHYS/#2501W), [3101](https://catalog.uconn.edu/PHYS/#3101) and [3201](https://catalog.uconn.edu/PHYS/#3201), and [3300](https://catalog.uconn.edu/PHYS/#3300) along with sufficient credits of elective physics courses to meet the 24-credit requirement. No more than six credits from [PHYS 4099](https://catalog.uconn.edu/PHYS/#4099) may be counted towards this degree.

The Bachelor of Arts degree requires a minimum of 12 credits from 2000-level or above related courses in mathematics, other sciences, or engineering.

### Bachelor of Science in Engineering Physics

Offered jointly by the Physics Department of the College of Liberal Arts and Sciences and the School of Engineering

Engineering Physics majors can concentrate in either Electrical, Materials Science, or Mechanical Engineering. Students choose the college/school that they wish to graduate from and must satisfy the course requirements of either the College of Liberal Arts and Sciences or the School of Engineering to complete their degree.

Engineering Physics majors are required to complete the following:

* [CHEM 1128Q](https://catalog.uconn.edu/CHEM/#1128Q) or [1148Q](https://catalog.uconn.edu/CHEM/#1148Q);
* [PHYS 2300](https://catalog.uconn.edu/PHYS/#2300), [2501W](https://catalog.uconn.edu/PHYS/#2501W), [3101](https://catalog.uconn.edu/PHYS/#3101), [3201](https://catalog.uconn.edu/PHYS/#3201), [3202](https://catalog.uconn.edu/PHYS/#3202), and [3401](https://catalog.uconn.edu/PHYS/#3401);
* [MATH 2110Q](https://catalog.uconn.edu/MATH/#2110Q), [2410Q](https://catalog.uconn.edu/MATH/#2410Q), and [3410](https://catalog.uconn.edu/MATH/#3410)

#### Electrical Engineering

[ECE 2001](https://catalog.uconn.edu/ECE/#2001), [3101](https://catalog.uconn.edu/ECE/#3101), [3111](https://catalog.uconn.edu/ECE/#3111), [3201](https://catalog.uconn.edu/ECE/#3201), [3223](https://catalog.uconn.edu/ECE/#3223), [3225](https://catalog.uconn.edu/ECE/#3225), [4111](https://catalog.uconn.edu/ECE/#4111), [4211](https://catalog.uconn.edu/ECE/#4211), [4901](https://catalog.uconn.edu/ECE/#4901), and [4902](https://catalog.uconn.edu/ECE/#4902); [CSE 2300W](https://catalog.uconn.edu/CSE/#2300W); [MATH 2210Q](https://catalog.uconn.edu/MATH/#2210Q); [PHYS 3300](https://catalog.uconn.edu/PHYS/#3300); [STAT 3345Q](https://catalog.uconn.edu/STAT/#3345Q); Elective courses (four credits).

#### Mechanical Engineering

[ME 2233](https://catalog.uconn.edu/ME/#2233), [2234](https://catalog.uconn.edu/ME/#2234), [3220](https://catalog.uconn.edu/ME/#3220), [3227](https://catalog.uconn.edu/ME/#3227), [3242](https://catalog.uconn.edu/ME/#3242), [3250](https://catalog.uconn.edu/ME/#3250), [3253](https://catalog.uconn.edu/ME/#3253), [4972](https://catalog.uconn.edu/ME/#4972), and [4973W](https://catalog.uconn.edu/ME/#4973W); [CE 2110](https://catalog.uconn.edu/CE/#2110), [3110](https://catalog.uconn.edu/CE/#3110); [STAT 3345Q](https://catalog.uconn.edu/STAT/#3345Q); ME elective courses (six credits); PHYS elective courses (six credits).

#### Materials Science and Engineering

[MSE 2001](https://catalog.uconn.edu/MSE/#2001), [2002](https://catalog.uconn.edu/MSE/#2002), [2053](https://catalog.uconn.edu/MSE/#2053), [3001](https://catalog.uconn.edu/MSE/#3001), [3002](https://catalog.uconn.edu/MSE/#3002), [3003](https://catalog.uconn.edu/MSE/#3003), [3004](https://catalog.uconn.edu/MSE/#3004), [3055](https://catalog.uconn.edu/MSE/#3055) and [3056](https://catalog.uconn.edu/MSE/#3056), [4003](https://catalog.uconn.edu/MSE/#4003), [4901W](https://catalog.uconn.edu/MSE/#4901W), and [4902W](https://catalog.uconn.edu/MSE/#4902W); [PHYS 4150](https://catalog.uconn.edu/PHYS/#4150) and [4210](https://catalog.uconn.edu/PHYS/#4210); MSE elective courses (nine credits); Physics elective courses (three credits).

Students in the Bachelor of Science in Engineering Physics are required to pass [ENGR 1000](https://catalog.uconn.edu/ENGR/#1000) in addition to [PHYS 2300](https://catalog.uconn.edu/PHYS/#2300) in order to satisfy the information literacy competency requirement, and [PHYS 2501W](https://catalog.uconn.edu/PHYS/#2501W) will suffice to satisfy the writing in the major requirement.

The options for the electives courses are specified in the Engineering Physics Guide to Course Selection.

### Bachelor of Science in Mathematics-Physics

The B.S. degree in Mathematics-Physics may be completed by following either Track A, which has a physics emphasis, or Track B, which has a mathematics emphasis. Students in Track A should choose an advisor from the Physics Department, and those in Track B should choose an advisor from the Mathematics Department. The number of credits for 2000-level courses or above in the Track A is 30 in Physics and 19 in Mathematics, and for Track B these numbers are 21 credits in Physics and 28 in Mathematics. In either Track, the writing in the major and information literacy competencies are met using [PHYS 2501W](https://catalog.uconn.edu/PHYS/#2501W).

#### Track A: Physics Emphasis

In addition to the general education’s requirements of the University and College, the required courses for the Mathematics-Physics Major Track A (Physics Emphasis) are:

1. Either: (i) [MATH 2110Q](https://catalog.uconn.edu/MATH/#2110Q) (or [2130Q](https://catalog.uconn.edu/MATH/#2130Q) or [2143Q](https://catalog.uconn.edu/MATH/#2143Q)) and [2210Q](https://catalog.uconn.edu/MATH/#2210Q) and [2410Q](https://catalog.uconn.edu/MATH/#2410Q) (or [2420Q](https://catalog.uconn.edu/MATH/#2420Q)); or (ii) [MATH 2141Q](https://catalog.uconn.edu/MATH/#2141Q) and [2142Q](https://catalog.uconn.edu/MATH/#2142Q) and [2143Q](https://catalog.uconn.edu/MATH/#2143Q) and [2144Q](https://catalog.uconn.edu/MATH/#2144Q).
2. All of: [MATH 3146](https://catalog.uconn.edu/MATH/#3146), [3410](https://catalog.uconn.edu/MATH/#3410), [3510](https://catalog.uconn.edu/MATH/#3510) and [PHYS 2300](https://catalog.uconn.edu/PHYS/#2300), [2501W](https://catalog.uconn.edu/PHYS/#2501W), [3101](https://catalog.uconn.edu/PHYS/#3101), [3201](https://catalog.uconn.edu/PHYS/#3201), [3202](https://catalog.uconn.edu/PHYS/#3202), [3300](https://catalog.uconn.edu/PHYS/#3300), [3401](https://catalog.uconn.edu/PHYS/#3401).
3. Any nine credits from: [PHYS 2200](https://catalog.uconn.edu/PHYS/#2200), [2400](https://catalog.uconn.edu/PHYS/#2400), [2502](https://catalog.uconn.edu/PHYS/#2502), [3102](https://catalog.uconn.edu/PHYS/#3102), [3150](https://catalog.uconn.edu/PHYS/#3150), [3989](https://catalog.uconn.edu/PHYS/#3989), [4093](https://catalog.uconn.edu/PHYS/#4093), [4095](https://catalog.uconn.edu/PHYS/#4095), [4096W](https://catalog.uconn.edu/PHYS/#4096W), [4098](https://catalog.uconn.edu/PHYS/#4098), [4099](https://catalog.uconn.edu/PHYS/#4099), [3402](https://catalog.uconn.edu/PHYS/#3402), [4100](https://catalog.uconn.edu/PHYS/#4100), [4130](https://catalog.uconn.edu/PHYS/#4130), [4140](https://catalog.uconn.edu/PHYS/#4140), [4150](https://catalog.uconn.edu/PHYS/#4150), [4210](https://catalog.uconn.edu/PHYS/#4210), [4300](https://catalog.uconn.edu/PHYS/#4300), [4350](https://catalog.uconn.edu/PHYS/#4350), [4900](https://catalog.uconn.edu/PHYS/#4900).

#### Track B: Mathematics Emphasis

The required courses for the Mathematics-Physics Major Track B (Mathematics Emphasis) are:

1. Either: (i) [MATH 2110Q](https://catalog.uconn.edu/MATH/#2110Q) (or [2130Q](https://catalog.uconn.edu/MATH/#2130Q) or [2143Q](https://catalog.uconn.edu/MATH/#2143Q)) and [2210Q](https://catalog.uconn.edu/MATH/#2210Q) and [2410Q](https://catalog.uconn.edu/MATH/#2410Q) (or [2420Q](https://catalog.uconn.edu/MATH/#2420Q)) [2710](https://catalog.uconn.edu/MATH/#2710) (or [2141Q](https://catalog.uconn.edu/MATH/#2141Q) and [2142Q](https://catalog.uconn.edu/MATH/#2142Q)) and [3146](https://catalog.uconn.edu/MATH/#3146); or (ii) [MATH 2141Q](https://catalog.uconn.edu/MATH/#2141Q) and [2142Q](https://catalog.uconn.edu/MATH/#2142Q) and [2143Q](https://catalog.uconn.edu/MATH/#2143Q) and [2144Q](https://catalog.uconn.edu/MATH/#2144Q) and [3146](https://catalog.uconn.edu/MATH/#3146)
2. All of: [PHYS 2300](https://catalog.uconn.edu/PHYS/#2300), [2501W](https://catalog.uconn.edu/PHYS/#2501W), [3101](https://catalog.uconn.edu/PHYS/#3101), [3201](https://catalog.uconn.edu/PHYS/#3201), [3202](https://catalog.uconn.edu/PHYS/#3202), [3401](https://catalog.uconn.edu/PHYS/#3401).
3. Any 3 credits from: [PHYS 2200](https://catalog.uconn.edu/PHYS/#2200), [2400](https://catalog.uconn.edu/PHYS/#2400), [2502](https://catalog.uconn.edu/PHYS/#2502), [3102](https://catalog.uconn.edu/PHYS/#3102), [3150](https://catalog.uconn.edu/PHYS/#3150), [3300](https://catalog.uconn.edu/PHYS/#3300), [3989](https://catalog.uconn.edu/PHYS/#3989), [4093](https://catalog.uconn.edu/PHYS/#4093), [4095](https://catalog.uconn.edu/PHYS/#4095), [4096W](https://catalog.uconn.edu/PHYS/#4096W), [4098](https://catalog.uconn.edu/PHYS/#4098), [4099](https://catalog.uconn.edu/PHYS/#4099), [3402](https://catalog.uconn.edu/PHYS/#3402), [4100](https://catalog.uconn.edu/PHYS/#4100), [4130](https://catalog.uconn.edu/PHYS/#4130), [4140](https://catalog.uconn.edu/PHYS/#4140), [4150](https://catalog.uconn.edu/PHYS/#4150), [4210](https://catalog.uconn.edu/PHYS/#4210), [4300](https://catalog.uconn.edu/PHYS/#4300), [4350](https://catalog.uconn.edu/PHYS/#4350), [4900](https://catalog.uconn.edu/PHYS/#4900).
4. Any 4 courses from [MATH 3150](https://catalog.uconn.edu/MATH/#3150) (or [4110](https://catalog.uconn.edu/MATH/#4110)), [3151](https://catalog.uconn.edu/MATH/#3151), [3160](https://catalog.uconn.edu/MATH/#3160), [3210](https://catalog.uconn.edu/MATH/#3210), [3230](https://catalog.uconn.edu/MATH/#3230) (or [4210](https://catalog.uconn.edu/MATH/#4210)), [3330](https://catalog.uconn.edu/MATH/#3330) (or [4310](https://catalog.uconn.edu/MATH/#4310)), [3370](https://catalog.uconn.edu/MATH/#3370), [3410](https://catalog.uconn.edu/MATH/#3410).

A minor in [Physics](https://catalog.uconn.edu/minors/physics/) is described in the Minors section.

*Proposed Copy:*

### Bachelor of Science, General Option

A total of 48 credits from 2000-level or above courses in physics, other sciences, mathematics, or engineering are required. Among these, 36 credits must be physics courses. The 36 credits of physics must include [PHYS 2300](https://catalog.uconn.edu/PHYS/#2300), [2501W](https://catalog.uconn.edu/PHYS/#2501W), [3101](https://catalog.uconn.edu/PHYS/#3101), [3201](https://catalog.uconn.edu/PHYS/#3201), [3202](https://catalog.uconn.edu/PHYS/#3202), [3300](https://catalog.uconn.edu/PHYS/#3300), and [3401](https://catalog.uconn.edu/PHYS/#3401), and at least three credits of an advanced laboratory ([PHYS 3501](https://catalog.uconn.edu/PHYS/#2502), [3150](https://catalog.uconn.edu/PHYS/#3150), or [4900](https://catalog.uconn.edu/PHYS/#4900)). It is strongly recommended that students going on to graduate school in physics take [PHYS 3402](https://catalog.uconn.edu/PHYS/#3402). All students are strongly encouraged to participate in an undergraduate research project. An experimental research project ([PHYS 4099](https://catalog.uconn.edu/PHYS/#4099)) may count towards the advanced laboratory requirement. No more than six credits from [PHYS 4099](https://catalog.uconn.edu/PHYS/#4099) may be counted towards this degree option. The general option for the Bachelor of Science degree requires a minimum of 12 credits from 2000-level or above related courses in mathematics, other sciences, or engineering.

### Bachelor of Science, Applied Option

A total of 48 credits from 2000-level or above courses in physics, other sciences, mathematics, or engineering are required. Among these, 30 credits must be physics courses. The 30 credits must include [PHYS 2300](https://catalog.uconn.edu/PHYS/#2300), [2501W](https://catalog.uconn.edu/PHYS/#2501W), [3101](https://catalog.uconn.edu/PHYS/#3101), [3201](https://catalog.uconn.edu/PHYS/#3201), and [3300](https://catalog.uconn.edu/PHYS/#3300), plus a minimum of nine credits from the following eight courses: [PHYS 3501](https://catalog.uconn.edu/PHYS/#2502), [3150](https://catalog.uconn.edu/PHYS/#3150), [4140](https://catalog.uconn.edu/PHYS/#4140), [4150](https://catalog.uconn.edu/PHYS/#4150), [4210](https://catalog.uconn.edu/PHYS/#4210), [4350](https://catalog.uconn.edu/PHYS/#4350), [4900](https://catalog.uconn.edu/PHYS/#4900), and 5621, with at least three of the nine credits being from an advanced laboratory ([PHYS 3501](https://catalog.uconn.edu/PHYS/#2502), [3150](https://catalog.uconn.edu/PHYS/#3150), or [4900](https://catalog.uconn.edu/PHYS/#4900)). These eight courses involve the application of knowledge from multiple basic subjects, i.e., from mechanics, electricity and magnetism, statistical and thermal physics, and quantum mechanics. All students are strongly encouraged to participate in an undergraduate research project. An experimental research project ([PHYS 4099](https://catalog.uconn.edu/PHYS/#4099)) may count towards the advanced laboratory requirement.

The applied option for the Bachelor of Science degree requires a minimum of 12 credits from 2000-level or above related courses in mathematics, other sciences, or engineering. To complete the 48 total required credits for the applied option, the remaining six credits may come from 2000-level or above courses in physics, other sciences, mathematics, or engineering. No more than six credits from [PHYS 4099](https://catalog.uconn.edu/PHYS/#4099), may be counted towards this degree option.

### Bachelor of Arts

A total of 36 credits from 2000-level or above courses in physics, other sciences, mathematics, or engineering are required. Among these, 24 credits must be physics courses which must include [PHYS 2300](https://catalog.uconn.edu/PHYS/#2300), [2501W](https://catalog.uconn.edu/PHYS/#2501W), [3101](https://catalog.uconn.edu/PHYS/#3101) and [3201](https://catalog.uconn.edu/PHYS/#3201), and [3300](https://catalog.uconn.edu/PHYS/#3300) along with sufficient credits of elective physics courses to meet the 24-credit requirement. No more than six credits from [PHYS 4099](https://catalog.uconn.edu/PHYS/#4099) may be counted towards this degree.

The Bachelor of Arts degree requires a minimum of 12 credits from 2000-level or above related courses in mathematics, other sciences, or engineering.

### Bachelor of Science in Engineering Physics

Offered jointly by the Physics Department of the College of Liberal Arts and Sciences and the School of Engineering

Engineering Physics majors can concentrate in either Electrical, Materials Science, or Mechanical Engineering. Students choose the college/school that they wish to graduate from and must satisfy the course requirements of either the College of Liberal Arts and Sciences or the School of Engineering to complete their degree.

Engineering Physics majors are required to complete the following:

* [CHEM 1128Q](https://catalog.uconn.edu/CHEM/#1128Q) or [1148Q](https://catalog.uconn.edu/CHEM/#1148Q);
* [PHYS 2300](https://catalog.uconn.edu/PHYS/#2300), [2501W](https://catalog.uconn.edu/PHYS/#2501W), [3101](https://catalog.uconn.edu/PHYS/#3101), [3201](https://catalog.uconn.edu/PHYS/#3201), [3202](https://catalog.uconn.edu/PHYS/#3202), and [3401](https://catalog.uconn.edu/PHYS/#3401);
* [MATH 2110Q](https://catalog.uconn.edu/MATH/#2110Q), [2410Q](https://catalog.uconn.edu/MATH/#2410Q), and [3410](https://catalog.uconn.edu/MATH/#3410)

#### Electrical Engineering

[ECE 2001](https://catalog.uconn.edu/ECE/#2001), [3101](https://catalog.uconn.edu/ECE/#3101), [3111](https://catalog.uconn.edu/ECE/#3111), [3201](https://catalog.uconn.edu/ECE/#3201), [3223](https://catalog.uconn.edu/ECE/#3223), [3225](https://catalog.uconn.edu/ECE/#3225), [4111](https://catalog.uconn.edu/ECE/#4111), [4211](https://catalog.uconn.edu/ECE/#4211), [4901](https://catalog.uconn.edu/ECE/#4901), and [4902](https://catalog.uconn.edu/ECE/#4902); [CSE 2300W](https://catalog.uconn.edu/CSE/#2300W); [MATH 2210Q](https://catalog.uconn.edu/MATH/#2210Q); [PHYS 3300](https://catalog.uconn.edu/PHYS/#3300); [STAT 3345Q](https://catalog.uconn.edu/STAT/#3345Q); Elective courses (four credits).

#### Mechanical Engineering

[ME 2233](https://catalog.uconn.edu/ME/#2233), [2234](https://catalog.uconn.edu/ME/#2234), [3220](https://catalog.uconn.edu/ME/#3220), [3227](https://catalog.uconn.edu/ME/#3227), [3242](https://catalog.uconn.edu/ME/#3242), [3250](https://catalog.uconn.edu/ME/#3250), [3253](https://catalog.uconn.edu/ME/#3253), [4972](https://catalog.uconn.edu/ME/#4972), and [4973W](https://catalog.uconn.edu/ME/#4973W); [CE 2110](https://catalog.uconn.edu/CE/#2110), [3110](https://catalog.uconn.edu/CE/#3110); [STAT 3345Q](https://catalog.uconn.edu/STAT/#3345Q); ME elective courses (six credits); PHYS elective courses (six credits).

#### Materials Science and Engineering

[MSE 2001](https://catalog.uconn.edu/MSE/#2001), [2002](https://catalog.uconn.edu/MSE/#2002), [2053](https://catalog.uconn.edu/MSE/#2053), [3001](https://catalog.uconn.edu/MSE/#3001), [3002](https://catalog.uconn.edu/MSE/#3002), [3003](https://catalog.uconn.edu/MSE/#3003), [3004](https://catalog.uconn.edu/MSE/#3004), [3055](https://catalog.uconn.edu/MSE/#3055) and [3056](https://catalog.uconn.edu/MSE/#3056), [4003](https://catalog.uconn.edu/MSE/#4003), [4901W](https://catalog.uconn.edu/MSE/#4901W), and [4902W](https://catalog.uconn.edu/MSE/#4902W); [PHYS 4150](https://catalog.uconn.edu/PHYS/#4150) and [4210](https://catalog.uconn.edu/PHYS/#4210); MSE elective courses (nine credits); Physics elective courses (three credits).

Students in the Bachelor of Science in Engineering Physics are required to pass [ENGR 1000](https://catalog.uconn.edu/ENGR/#1000) in addition to [PHYS 2300](https://catalog.uconn.edu/PHYS/#2300) in order to satisfy the information literacy competency requirement, and [PHYS 2501W](https://catalog.uconn.edu/PHYS/#2501W) will suffice to satisfy the writing in the major requirement.

The options for the electives courses are specified in the Engineering Physics Guide to Course Selection.

### Bachelor of Science in Mathematics-Physics

The B.S. degree in Mathematics-Physics may be completed by following either Track A, which has a physics emphasis, or Track B, which has a mathematics emphasis. Students in Track A should choose an advisor from the Physics Department, and those in Track B should choose an advisor from the Mathematics Department. The number of credits for 2000-level courses or above in the Track A is 30 in Physics and 19 in Mathematics, and for Track B these numbers are 21 credits in Physics and 28 in Mathematics. In either Track, the writing in the major and information literacy competencies are met using [PHYS 2501W](https://catalog.uconn.edu/PHYS/#2501W).

#### Track A: Physics Emphasis

In addition to the general education’s requirements of the University and College, the required courses for the Mathematics-Physics Major Track A (Physics Emphasis) are:

1. Either: (i) [MATH 2110Q](https://catalog.uconn.edu/MATH/#2110Q) (or [2130Q](https://catalog.uconn.edu/MATH/#2130Q) or [2143Q](https://catalog.uconn.edu/MATH/#2143Q)) and [2210Q](https://catalog.uconn.edu/MATH/#2210Q) and [2410Q](https://catalog.uconn.edu/MATH/#2410Q) (or [2420Q](https://catalog.uconn.edu/MATH/#2420Q)); or (ii) [MATH 2141Q](https://catalog.uconn.edu/MATH/#2141Q) and [2142Q](https://catalog.uconn.edu/MATH/#2142Q) and [2143Q](https://catalog.uconn.edu/MATH/#2143Q) and [2144Q](https://catalog.uconn.edu/MATH/#2144Q).
2. All of: [MATH 3146](https://catalog.uconn.edu/MATH/#3146), [3410](https://catalog.uconn.edu/MATH/#3410), [3510](https://catalog.uconn.edu/MATH/#3510) and [PHYS 2300](https://catalog.uconn.edu/PHYS/#2300), [2501W](https://catalog.uconn.edu/PHYS/#2501W), [3101](https://catalog.uconn.edu/PHYS/#3101), [3201](https://catalog.uconn.edu/PHYS/#3201), [3202](https://catalog.uconn.edu/PHYS/#3202), [3300](https://catalog.uconn.edu/PHYS/#3300), [3401](https://catalog.uconn.edu/PHYS/#3401).
3. Any nine credits from: [PHYS 2200](https://catalog.uconn.edu/PHYS/#2200), [2400](https://catalog.uconn.edu/PHYS/#2400), [3501](https://catalog.uconn.edu/PHYS/#2502), [3102](https://catalog.uconn.edu/PHYS/#3102), [3150](https://catalog.uconn.edu/PHYS/#3150), [3989](https://catalog.uconn.edu/PHYS/#3989), [4093](https://catalog.uconn.edu/PHYS/#4093), [4095](https://catalog.uconn.edu/PHYS/#4095), [4096W](https://catalog.uconn.edu/PHYS/#4096W), [4098](https://catalog.uconn.edu/PHYS/#4098), [4099](https://catalog.uconn.edu/PHYS/#4099), [3402](https://catalog.uconn.edu/PHYS/#3402), [4100](https://catalog.uconn.edu/PHYS/#4100), [4130](https://catalog.uconn.edu/PHYS/#4130), [4140](https://catalog.uconn.edu/PHYS/#4140), [4150](https://catalog.uconn.edu/PHYS/#4150), [4210](https://catalog.uconn.edu/PHYS/#4210), [4300](https://catalog.uconn.edu/PHYS/#4300), [4350](https://catalog.uconn.edu/PHYS/#4350), [4900](https://catalog.uconn.edu/PHYS/#4900).

#### Track B: Mathematics Emphasis

The required courses for the Mathematics-Physics Major Track B (Mathematics Emphasis) are:

1. Either: (i) [MATH 2110Q](https://catalog.uconn.edu/MATH/#2110Q) (or [2130Q](https://catalog.uconn.edu/MATH/#2130Q) or [2143Q](https://catalog.uconn.edu/MATH/#2143Q)) and [2210Q](https://catalog.uconn.edu/MATH/#2210Q) and [2410Q](https://catalog.uconn.edu/MATH/#2410Q) (or [2420Q](https://catalog.uconn.edu/MATH/#2420Q)) [2710](https://catalog.uconn.edu/MATH/#2710) (or [2141Q](https://catalog.uconn.edu/MATH/#2141Q) and [2142Q](https://catalog.uconn.edu/MATH/#2142Q)) and [3146](https://catalog.uconn.edu/MATH/#3146); or (ii) [MATH 2141Q](https://catalog.uconn.edu/MATH/#2141Q) and [2142Q](https://catalog.uconn.edu/MATH/#2142Q) and [2143Q](https://catalog.uconn.edu/MATH/#2143Q) and [2144Q](https://catalog.uconn.edu/MATH/#2144Q) and [3146](https://catalog.uconn.edu/MATH/#3146)
2. All of: [PHYS 2300](https://catalog.uconn.edu/PHYS/#2300), [2501W](https://catalog.uconn.edu/PHYS/#2501W), [3101](https://catalog.uconn.edu/PHYS/#3101), [3201](https://catalog.uconn.edu/PHYS/#3201), [3202](https://catalog.uconn.edu/PHYS/#3202), [3401](https://catalog.uconn.edu/PHYS/#3401).
3. Any 3 credits from: [PHYS 2200](https://catalog.uconn.edu/PHYS/#2200), [2400](https://catalog.uconn.edu/PHYS/#2400), [3501](https://catalog.uconn.edu/PHYS/#2502), [3102](https://catalog.uconn.edu/PHYS/#3102), [3150](https://catalog.uconn.edu/PHYS/#3150), [3300](https://catalog.uconn.edu/PHYS/#3300), [3989](https://catalog.uconn.edu/PHYS/#3989), [4093](https://catalog.uconn.edu/PHYS/#4093), [4095](https://catalog.uconn.edu/PHYS/#4095), [4096W](https://catalog.uconn.edu/PHYS/#4096W), [4098](https://catalog.uconn.edu/PHYS/#4098), [4099](https://catalog.uconn.edu/PHYS/#4099), [3402](https://catalog.uconn.edu/PHYS/#3402), [4100](https://catalog.uconn.edu/PHYS/#4100), [4130](https://catalog.uconn.edu/PHYS/#4130), [4140](https://catalog.uconn.edu/PHYS/#4140), [4150](https://catalog.uconn.edu/PHYS/#4150), [4210](https://catalog.uconn.edu/PHYS/#4210), [4300](https://catalog.uconn.edu/PHYS/#4300), [4350](https://catalog.uconn.edu/PHYS/#4350), [4900](https://catalog.uconn.edu/PHYS/#4900).
4. Any 4 courses from [MATH 3150](https://catalog.uconn.edu/MATH/#3150) (or [4110](https://catalog.uconn.edu/MATH/#4110)), [3151](https://catalog.uconn.edu/MATH/#3151), [3160](https://catalog.uconn.edu/MATH/#3160), [3210](https://catalog.uconn.edu/MATH/#3210), [3230](https://catalog.uconn.edu/MATH/#3230) (or [4210](https://catalog.uconn.edu/MATH/#4210)), [3330](https://catalog.uconn.edu/MATH/#3330) (or [4310](https://catalog.uconn.edu/MATH/#4310)), [3370](https://catalog.uconn.edu/MATH/#3370), [3410](https://catalog.uconn.edu/MATH/#3410).

A minor in [Physics](https://catalog.uconn.edu/minors/physics/) is described in the Minors section.

**2019-110 SOCI/WGSS 5613 Add Course**

*Proposed Copy:*

SOCI 5612. Theories of Intersectionality.

(also offered as WGSS 5612.)

Analyses of theories that simultaneously take into account dynamics of race, class, gender, sexuality, nation, ability, and other dimensions of social inequality and difference. Discussion of how different scholars research intersectionality, the limits and possibilities of different approaches, and the types of methodologies that are most effective for intersectional analysis.