Concourse Science Subjects

Chemistry

CC.511 Principles of Chemical Science
Prereq: None. Coreq: CC.010 or CC.A10
U (Fall)
5-0-7 units. CHEMISTRY
Credit cannot also be received for 3.091, 5.111, 5.112, ES.5111, ES.5112
Equivalent to 5.111; see 5.111 for description. Limited to students in Concourse.
E. Taylor

CC.512 Organic Chemistry I
Prereq: Chemistry (GIR); Coreq: CC.010, CC.011, or CC.A10
U (Spring)
5-0-7 units. REST
Credit cannot also be received for 5.12
Equivalent to 5.12; See 5.12 for description. Limited to students in Concourse.
E. Taylor

Mathematics

CC.1802 Calculus
Prereq: Calculus I (GIR); Coreq: CC.010, CC.011, or CC.A10
U (Fall)
5-0-7 units. CALC II
Credit cannot also be received for 18.02, 18.022, 18.02A, ES.1802, ES.182A
Equivalent to 18.02; see 18.02 for description. Limited to students in Concourse.
R. Winters

CC.1803 Differential Equations
Prereq: None. Coreq: Calculus II (GIR) and (CC.010, CC.011, or CC.A10)
U (Spring)
5-0-7 units. REST
Credit cannot also be received for 18.03, 18.032
Equivalent to 18.03; see 18.03 for description. Limited to students in Concourse.
R. Winters

Physics

CC.082 Discovering Electricity and Magnetism
Prereq: None
U (Spring)
2-0-1 units
In this seminar, students discover some of the concepts covered in 8.022 from the perspective of a practicing physicist. Employs vector calculus as an alternative tool for problem solving, and introduces the relativistic origin of magnetism. We will meet twice weekly to discuss these concepts as well as to work together on more advanced kinds of problems. Aims to further engage students already interested in majoring in physics, as well as those who wish simply to discover what physics has to offer. Subject can count toward the 9-unit discovery-focused credit limit for first-year students. Limited to students enrolled in Concourse.
R. Lang

CC.801 Physics I
Subject meets with CC.8012
Prereq: None. Coreq: CC.010 or CC.A10
U (Fall)
5-0-7 units. PHYSICS I
Equivalent to 8.01; see 8.01 for description. Limited to students in Concourse.
S. Drasco

CC.8012 Physics I
Subject meets with CC.801
Prereq: None. Coreq: CC.010 or CC.A10
U (Fall)
5-0-7 units. PHYSICS I
Equivalent to 8.012; see 8.012 for description. Limited to students in Concourse.
J. Bloomfield

CC.802 Physics II
Subject meets with CC.8022
Prereq: Calculus I (GIR) and Physics I (GIR); Coreq: CC.010, CC.011, or CC.A10
U (Spring)
5-0-7 units. PHYSICS II
Equivalent to 8.02; see 8.02 for description. Limited to students in Concourse.
S. Drasco
**CC.8022 Physics II**  
Subject meets with CC.802  
Prereq: Physics I (GIR); Coreq: Calculus II (GIR)  
U (Spring)  
5-0-7 units. PHYSICS II  
Equivalent to 8.022; see 8.022 for description. Limited to students in Concourse.  
* S. Drasco

**Concourse HASS Subjects**

**CC.110 Becoming Human: Ancient Greek Perspectives on the Good Life**  
Prereq: None. Coreq: CC.010 or CC.A10  
U (Fall)  
3-0-9 units. HASS-H; CI-H  
Explores the question of the good life in the major literary and philosophic thinkers of ancient Greece. Considers topics such as justice, moral virtue, friendship, love, and the life of the mind both for an individual and as part of society. Students debate the classical Greek answers to these questions and consider ways in which these answers apply to our present lives. Includes selected works by authors such as Homer, Sophocles, Euripides, Aristophanes, Plato, Aristotle, and Epicurus. Limited to students in Concourse.  
* L. Rabieh

**CC.111[J] Modern Conceptions of Freedom**  
Same subject as 17.04[J]  
Prereq: None  
Acad Year 2020-2021: Not offered  
Acad Year 2021-2022: U (Spring)  
3-0-9 units. HASS-H; CI-H  
Students read early modern political theorists, and trace the growth of the value of freedom. Examines the modern definition of freedom, and the obligations that people accept in honoring it. Also investigates how these obligations are captured in the principles of our political association. Studies how the centrality of freedom plays out in the political thought of such authors as Hobbes, Locke, Rousseau, Burke and Montesquieu. Students also debate which notions of freedom inspire and sustain the American experiment by carefully reading the documents and arguments of the founding of the United States. Preference to students in Concourse.  
* L. Rabieh

**CC.116 How to Rule the World: The Promises and Pitfalls of Politics, War, and Empire**  
Prereq: None  
Acad Year 2020-2021: U (Spring)  
Acad Year 2021-2022: Not offered  
4-0-8 units. HASS-H; CI-H  
Explores the ambitions and constraints of political rule in order to understand how transformational leaders have (or should have) managed both in the service of good government. Employs normative and empirical methods to assess effective leadership, with particular attention to trade-offs between justice and security and to competing notions of justice itself. Includes case studies and various foundational texts that address the theme of great political leadership. Drawing on the texts, students discern different criteria for good rule and assess both the adequacy of those criteria and whether case studies support them. Preference to Concourse students.  
* L. Rabieh

**CC.117[J] Humane Warfare: Ancient and Medieval Perspectives on Ethics in War**  
Same subject as 17.05[J]  
Prereq: None  
Acad Year 2020-2021: U (Spring)  
Acad Year 2021-2022: Not offered  
3-0-9 units. HASS-H; CI-H  
Explores questions of justice and ethics in war by focusing on primary texts of pre-modern works of history, philosophy, literature, and Biblical interpretation. Readings from antiquity include Thucydides, Aristophanes, and Cicero. Examination of the Biblical tradition of just war, itself informed by the classical tradition, includes readings from early and Medieval Christian and Islamic thinkers and proceeds through the early Renaissance, with the beginning of a formalized doctrine of just war theory. Readings about current ethical dilemmas of war are discussed throughout and are given sustained attention at the end of the term. Preference to Concourse students.  
* L. Rabieh

**CC.120[J] Making Books in the Renaissance and Today**  
Same subject as 21H.343[J]  
Prereq: None  
U (Fall)  
3-0-9 units. HASS-A  
See description under subject 21H.343[J]. Limited to 12.  
* E. Zimmer
Concourse Seminars

**CC.010 Seminar I**
Subject meets with CC.A10
Prereq: Permission of instructor
U (Fall)
2-0-1 units
Can be repeated for credit.

The key academic integration in which philosophical, historical, and sociological topics are connected with modern science. Combination of outside speakers and Concourse faculty lead weekly luncheon discussion. Subject can count toward the 9-unit discovery-focused credit limit for first year students. Limited to Concourse students.

*Staff*

**CC.011 Seminar II**
Prereq: None
U (Spring)
2-0-1 units
Can be repeated for credit.

Researchers from across MIT join the Concourse seminar to explore the topic of “Thinking Across the Disciplines.” Concourse faculty lead weekly luncheon discussions with our guests from the wider MIT faculty. Subject can count toward the 9-unit discovery-focused credit limit for first year students. Preference to students in Concourse.

*Staff*

**CC.012 Continuing Conversations**
Prereq: None
U (Fall, Spring)
2-0-1 units
Can be repeated for credit.

Close reading and vigorous discussion of an important book or theme, chosen to explore philosophical, ethical, and political questions that span the ages and disciplines. Readings and themes vary by term. Past examples include Aristotle’s Physics, Plato’s dialogue on knowledge, the Theaetetus, and a variety of writings that exemplify liberalism and conservatism in the American tradition.

Preference to Concourse students.

*L. Rabieh, A. McCants*

Concourse Teaching and Research

**CC.200 Concourse Program Undergraduate Teaching**
Prereq: Permission of instructor
U (Fall, IAP, Spring)
Units arranged
Can be repeated for credit.

Tutoring, leadership of study and review groups, seminars and recitations in the Concourse Program, under the supervision of senior Concourse staff. Limited to students in Concourse.

*Staff*

**CC.210 Independent Study**
Prereq: Permission of instructor
U (Fall, IAP, Spring)
Units arranged [P/D/F]
Can be repeated for credit.

Opportunity for independent study under regular supervision by a staff member. Projects require prior approval, as well as a written proposal and a final report. Limited to students in Concourse.

*Staff*

**CC.220 Independent Study**
Prereq: None
U (Fall, Spring)
Units arranged
Can be repeated for credit.

Opportunity for independent study under regular supervision by a staff member. Projects require prior approval, as well as a written proposal and a final report. Limited to students in Concourse.

*Staff*

**CC.UR Undergraduate Research**
Prereq: Permission of instructor
U (Fall, Spring)
Units arranged [P/D/F]
Can be repeated for credit.

For students wishing to pursue undergraduate research opportunities in Concourse. Limited to students in Concourse.

*Staff*
**Concourse Special Subjects**

**CC.S10 Special Subject: Concourse**  
Prereq: Permission of instructor  
U (Fall, IAP, Spring)  
Not offered regularly; consult department  
Units arranged  
Can be repeated for credit.  
Covers topics not included in the permanent curriculum. May be repeated for credit with permission of instructor. Preference to students in Concourse.  
*Staff*

**CC.S11 Special Subject: Concourse**  
Prereq: None  
U (Fall, IAP, Spring)  
Not offered regularly; consult department  
Units arranged  
Can be repeated for credit.  
Covers topics not included in the permanent curriculum. May be repeated for credit with permission of instructor. Preference to students in Concourse.  
*Staff*

**CC.S20, CC.S21 Special Subject: Concourse**  
Prereq: None  
U (Fall, IAP, Spring)  
Units arranged [P/D/F]  
Can be repeated for credit.  
Covers topics not included in the permanent curriculum. May be repeated for credit with permission of instructor. Preference to students in Concourse.  
*Staff*

**CC.S81 Special Subject: Exploring Mathematical Mechanics**  
Prereq: None. Coreq: Physics I (GIR)  
U (Fall)  
Not offered regularly; consult department  
2-0-1 units  
This exploratory seminar offers students a deeper mathematical introduction to classical mechanics than they receive in the standard CC.801 subject. The extra material shares some topics with the mainstream subject 8.012, but here pursued in an exploratory context. In addition, toward the end of the semester, students will be introduced to the basic principles of special and general relativity. Meets twice weekly to discuss physics concepts that go beyond the 8.01 lectures as well as to work on more advanced kinds of problems. This seminar hopes to further engage students already interested in majoring in physics, as well as those who wish simply to explore what physics has to offer. Licensed for academic year 2019-2020 by the Committee on Curricula. Subject can count toward the 9-unit discovery-focused credit limit for first year students. Limited to students enrolled in Concourse.  
*R. Lang*