

SPECIAL PROGRAMS

Interphase EDGE: Pre-First-Year Summer Component

SP.100 Interphase

Prereq: Commitment to register as a first-year student in the Fall U (Summer)

Units arranged [P/D/F]

Interphase is a seven-week program designed to enhance the academic success of students entering MIT. The program has a dual focus: it gives students an introduction to the MIT experience by exposing them to the rigors of a full subject load while simultaneously preparing them for academic success beyond MIT. The program includes calculus; chemistry; physical education; physics; writing, oral presentation and teamwork skills; and supporting academic activities, including small-group learning. Students can earn transcript credit for subjects taken in the program, sometimes resulting in advanced placement in corresponding subjects taken in the Fall. Activities include day trips to area cultural, recreational, and business sites. Students participate in a range of personal and educational development seminars and activities designed to ensure their smooth transition to college life.

S. Kalloo

Teaching and Learning Lab

SP.200 Teaching Development Fellows Network: Experience Designing and Facilitating Educational Development

Prereq: Permission of instructor

G (Fall, Spring)

1-0-1 units

Can be repeated for credit.

Project-based subject. Students design teaching-development programs and resources that support graduate student teaching in their departments. Instruction provided in advanced topics in teaching and learning, workshop design and facilitation, peer observation, and other topics in educational development under the supervision of the Teaching + Learning Lab staff. Students are selected by an application process and require permission from their department and concurrent appointment as a Teaching Development Fellow. Fellows register for this subject in the spring and fall. Enrollment limited by availability of suitable Teaching Development Fellow positions.

B. Hansberry

Institute-wide Discovery Subjects

SP.248 The NEET Experience

Prereq: None

U (Fall)

1-0-2 units

Gives first-year students an opportunity to explore various interdisciplinary domains, or threads — Autonomous Machines, Climate and Sustainability Systems, Digital Cities, and Living Machines — all of which are a part of the New Engineering Education Transformation (NEET) program. Students gain knowledge and skills in those domains through interactions with NEET faculty, instructors, and students and exercise their algorithmic, creative, and systems thinking through team-based challenges. Subject can count toward the 6-unit discovery-focused credit limit for first-year students.

R. Lavi

SP.251 How to Change the World: Experiences from Social Entrepreneurs

Prereq: None

U (Fall)

2-0-1 units

Every week, students meet a new role model who demonstrates what it means to change the world through social entrepreneurship, technology, or policy. Each session covers an aspect of social entrepreneurship, from identifying opportunities for change to innovation within specific topic areas to impact investing. Through these speakers, students gain a greater understanding of how technology-based, impactful solutions can address global challenges. Students learn to identify and address social and environmental problems and understand the relevance of this work for their time at MIT. By the end of the term, students identify what problems are of personal interest, and are connected to resources to continue their journey of social impact during their time at MIT. Subject can count toward the 6-unit discovery-focused credit limit for first year-students. Limited to 25; preference to first-year students.

A. Dale

SP.252 Careers in Medicine

Prereq: None

U (Fall)

2-0-1 units

Explores careers in medicine and health care. Additionally, explores potential majors for students looking to go into these different careers, which include physicians, physician-scientists, research scientists, biomedical engineers, bioinformatics analysts, computational biologists, health data scientists, health system managers, and health economists. Majors could include biological engineering, biology, chemical engineering, mechanical engineering, computer science, and more. Allows students to explore how they can have an impact in the field of medicine in a variety of different ways. Exposes students to career paths that are patient-facing (clinical) as well as career paths that are behind the scenes. Includes field trips to nearby labs and companies. Subject can count toward the 6-unit discovery-focused credit limit for first-year students. Limited to 25; preference to first-year students.

*A. Rosser***SP.254 Low Carbon Energy in Research and Application**

Prereq: None

U (Spring)

Not offered regularly; consult department

2-0-1 units

One of the major challenges of our time is to provide more energy to a growing world population while simultaneously reducing carbon emissions to combat climate change. Climate science shows that it is urgent to accomplish this soon, as the residence times of most greenhouse gasses are large. Subject offers exposure to relevant research that is being done in this context at MIT. Students review short papers on low carbon technologies and climate change; hear from faculty, researchers, and industry representatives associated with the MITEI Low Carbon Energy Centers; and create a digital story exploring the connections between the challenges, research, and current deployment of technologies. Offers context to students' future academic work and exposes students to ways in which many MIT majors apply to energy. Subject can count toward the 6-unit discovery-focused credit limit for first-year students.

*B. Hager, A. Danielson***SP.256 Informed Philanthropy in Theory and Action**

Prereq: None

U (IAP)

1-0-1 units

Explores the potential and pitfalls of philanthropy as a mechanism for social change. Students assess the work of community agencies to address challenges and opportunities facing MIT's neighboring communities, with particular focus on community representation, equity, and social justice. Class culminates with students making a group decision on how the Learning by Giving Foundation (which is partnering with the class) will disperse \$10,000 to local community agencies. Each session includes a presentation by a local community agency, grant-making foundation, and/or individual philanthropist. Through class discussion and supporting materials, students examine the interaction between philanthropy and social change, including the role of philanthropists past and present in shaping social change and social conservatism. Subject can count toward the 6-unit discovery-focused credit limit for first-year students. Limited to 20.

*A. Hynd, J. Bassett***SP.258 MISTI: Middle East Cross-Border Development and Leadership**

Prereq: None

U (Spring)

Not offered regularly; consult department

2-0-1 units

Provides opportunities to network and think strategically about challenges facing the Middle East and how situations can benefit from multi-disciplinary, cross-border solutions. Focus is international, with students working alongside peers from Israeli-Palestinian organizations. Through monthly professional development sessions with guest lecturers, weekly discussion-based sessions focused on the culture and history of the Middle East, and a group project, students explore what challenges face the Middle East and what skills are needed to address them. Networking opportunities with industry leaders and peers in the region provided. Open to students of all levels and disciplines. This subject can count toward the 6-unit discovery-focused credit limit for first-year students. Limited to 20.

D. Dolev, S. Koltai, K. Schwind

SP.259 Pathways to Social Justice at MIT and Beyond

Prereq: None

U (Fall)

2-0-1 units

Explores student pathways to support social change and social justice efforts within the greater Boston region and how students can be agents of change throughout their lives. Students are introduced to ethical, reciprocal, and community-informed approaches to creating social change through readings, lectures, class discussions, critical reflection, and direct service experiences with local community organizations. Aims to create a supportive community for undergraduate students to build a network of thoughtful MIT stakeholders dedicated to creating social good in the world. Subject offered by the PKG Public Service Center. Subject can count toward the 6-unit discovery-focused credit limit for first-year students.

*V. Yee***Terrascope****SP.310 Engagement and Discovery Through the Terrascope Field Experience**

Prereq: None

U (Spring; partial term)

Not offered regularly; consult department

1-1-1 units

Each spring, first-year students in the Terrascope Learning Community spend a week exploring a sustainability-related problem in an off-campus site. During the trip, students engage with communities affected by the problem and people taking a wide range of approaches to address it. In this course, students will integrate and communicate their experience from the trip, with the aim of deepening their consideration of the year's problem and how the field experience impacts their thoughts about their own pathways through MIT and beyond. Students will learn about best practices and opportunities for civic engagement related to the year's topic, and they will explore ways of communicating their learnings from the field experience. Limited to first-year students participating in the Terrascope spring break field experience.

*D. McGee, E. Chambers, A. Epstein***SP.35UR Undergraduate Research in Terrascope**

Prereq: None

U (Fall, IAP, Spring, Summer)

Units arranged [P/D/F]

Can be repeated for credit.

Undergraduate research opportunities in Terrascope.

*Staff***SP.360 Terrascope Radio**

Prereq: None

U (Spring)

3-3-6 units. HASS-A; CI-H

An exploration of radio as a medium of expression and communication, particularly the communication of complex scientific or technical information to general audiences. Examines the ingredients of effective radio programming, drawing extensively on examples from both commercial and public radio. Student teams produce, assemble, narrate, record and broadcast/webcast radio programs on topics related to the complex environmental issue that is the focus of the year's Terrascope subjects. Includes multiple individual writing assignments that explore the constraints and opportunities in radio as a medium. Limited to 15 first-year students.

*A. W. Epstein***SP.361 Majors and Careers Through a Terrascope Lens**

Prereq: None

U (IAP)

1-0-1 units

Can be repeated for credit.

MIT alumni pursuing sustainability-oriented careers describe ways in which their major and career choices have provided them with the lenses through which they see the problems they work to solve. Students participate in guided reflection, focused on making the discussion relevant to their own personal situations and affinities. Students strengthen their ability to think deeply about their goals, for MIT and for the world beyond, and come into direct contact with alumni who can continue to mentor them through this process. Open to all undergraduates, regardless of Terrascope affiliation.

*D. McGee, A. W. Epstein***SP.350 Special Subject: Terrascope**

Prereq: Permission of instructor

U (Fall, Spring)

Units arranged

Can be repeated for credit.

Covers areas of study not included in the regular Terrascope curriculum. Preference to students in Terrascope.

Staff