Carnegie Mellon University-Wide Studies Courses

Note on Course Numbers

Each Carnegie Mellon course number begins with a two-digit prefix which designates the department offering the course (76-xxx courses are offered by the Department of English, etc.). Although each department maintains its own course numbering practices, typically the first digit after the prefix indicates the class level: xx-1xx courses are freshmen-level, xx-2xx courses are sophomore level, etc. xx-6xx courses may be either undergraduate senior-level or graduate-level, depending on the department. xx-7xx courses and higher are graduate-level. Please consult the Schedule of Classes (https://enr-apps.as.cmu.edu/open/SOC/SOCServlet) each semester for course offerings and for any necessary pre-requisites or co-requisites.

99-101 Computing @ Carnegie Mellon
Fall and Spring: 3 units
Computing@Carnegie Mellon (C@CM) is a 3-unit, pass/fail mini course that will help you develop foundational computing and information literacy skills, focusing on the tools and technologies that are specific to Carnegie Mellon so you can be successful in your other academic courses. All undergraduate students are required to take the course. C@CM is offered in a hybrid format through the Open Learning Initiative's (OLI) online course environment; meaning that you'll complete your coursework online and attend a face-to-face recitation session for review and supplemental instruction.

Course Website: http://www.cmu.edu/c-cm/

99-102 Computing @ Carnegie Mellon
Fall and Spring: 3 units
Computing@Carnegie Mellon (C@CM) is a 3-unit, pass/fail mini course that will help you develop foundational computing and information literacy skills, focusing on the tools and technologies that are specific to Carnegie Mellon so you can be successful in your other academic courses. All undergraduate students are required to take the course. C@CM is offered in a hybrid format through the Open Learning Initiative's (OLI) online course environment; meaning that you'll complete your coursework online and attend a face-to-face recitation session for review and supplemental instruction.

Course Website: http://www.cmu.edu/c-cm/

99-104 Carnegie Skills Workshop
All Semesters: 3 units
Carnegie Skills Workshop (CSW) is a 3-unit course that helps students to define, locate, evaluate, organize and present information. CSW focuses on essential tools and technologies necessary for the successful completion of research and writing projects assigned in other courses. The same skills are indispensable at any stage in a person's professional career and personal life. All undergraduate students at CMU-Qatar are required to take the CSW course. Incoming students are expected to take CSW during the fall semester.

99-238 Materials, Energy and Environment
Fall: 9 units
The survival of humans and the advancement of civilization and culture are a result of mankinds' continued development of materials. From early times, civilizations with the most advanced materials have dominated the history of warfare and have been responsible for the infrastructural developments that have cradled out societies. As a result, materials have been influential in the trade and commerce between societies and are still to this day, strongly involved in the political, economic and social conflicts worldwide. Materials do not stand alone in development however, they are a result of, or are influenced by, technological needs and developments. The more advanced the material, the more energy and effort is required for its' production. In the US, the production of materials accounts for about 90% of the country's energy usage. This fact clearly indicates a strong tie between materials and energy, and without energy, technological developments based on material advancement will not occur. In our world today, the need to provide improved performance, economics and design in consumer goods comes as a direct result of the market conditions established by consumers. Material selection and design therefore is driven by application and consumer needs which implies that the consumer has a large influence on material consumption. Material selection and material usage in turn have major ecological implications in energy, material resources and direct environmental impact. Awareness of the complicated interaction is paramount for continued development of civilization. With the scale of industrialization that exists on our planet, consideration of resource management, ethical material selection choices, energy management, and final disposal are all necessary to ensure a sustainable future.

99-241 Revolutions of Circularity
Fall: 9 units
In this course we will investigate how the apparently simple concept of circularity (both in stillness and in motion) has accreted meaning. Starting with the circle as presented in early geometry, we will encompass circularity in ancient and Renaissance astronomy as well as classical physics. We will also discuss appearances of the circle in literature, philosophy, and art since our study will reveal connections such as how Aristotle's views on nature influenced Ptolemy and an understanding of our place in relation to the world, including central imagery in the poetry of Donne. As we demonstrate proofs and analyze texts, circularity will emerge not only as a device through which intellectual revolutions have occurred, but also as an object that has itself been transformed over the centuries.

99-242 Meaning Across the Millennia
Spring: 9 units
Is it possible to convey messages that remain comprehensible after immense time, in the face of inevitable cultural shifts and physical decay? In this course, students will come to terms with the technical and philosophical aspects to this problem while working on group projects to propose solutions to the preservation of memory. Along the way, we will identify the challenges in extracting meaning from artifacts, both ancient and contemporary, such as documents and monuments, whether intentional or unintentional. We will also confront ethical and esthetic issues in identifying what is worth preserving, the challenge of societal pressures on past projects, the possibility of future indifference, and the question of what purpose this endeavor may serve for present-day humanity. Case studies will include time capsules such as those created by the Westinghouse Electric & Manufacturing Company for the 1939 and 1964 New York World's Fairs; the proposed warning marker system for the U.S. Department of Energy Waste Isolation Pilot Plant; the Voyager Golden Records launched aboard two interplanetary probes; and attempts at communication with extraterrestrial intelligence.

99-245 Energy: Science, Society and Communication
Spring: 9 units
Energy pervades our lives, influencing our transportation, industry, agriculture, building use, and more. Climate change, national security, resource depletion, air and water quality, biodiversity loss, and other challenges demand new technological and social approaches related to energy, including broader public understanding and engagement. In response, the National Academy of Sciences (NAS) and National Academy of Engineering (NAE) recently chose Pittsburgh as the pilot city for its Science and Engineering Ambassadors program, which selects, prepares, and supports local experts to providing the perspective of science and engineering as community members make energy choices in their personal and professional lives. This course links NAS/NAE Ambassadors and staff, CMU and Pitt students and faculty, and citizens for a series of events on energy topics. Students will review background literature on the energy landscape, read scholarship on energy issues of local concern, and collaborate with partners on public events to communicate energy issues. Through their work, students will increase their own understanding of and ability to engage publicly with energy issues, as well as contribute to the mission of the National Academies and the welfare of our local community. Discussions of technical issues enable students without advanced backgrounds in the engineering and the natural sciences to participate fully. Students from all disciplines, especially the social sciences and humanities, are welcome to join this interdisciplinary course. NOTE: The course is scheduled on Tuesday and Thursday evenings for 2-1/2 hours. We will meet approximately half of those times. This allows us to respect the academic calendars of both universities, and provides flexibility in scheduling collaborative and independent student work.

99-250 Seminar for Peer Tutors
Fall and Spring: 4.5 units
SPECIAL PERMISSION REQUIRED: YES The purpose of this training course is to provide undergraduates with the skills, and experience necessary to become effective Peer Tutors. Throughout the course, students will be exposed to the mission and goals of Academic Development and the Peer Tutoring Program. The class lasts approximately nine weeks and is generally offered in the spring term from February through April. The course explores the roles and responsibilities of the tutor while offering insights into effective tutoring strategies through interactive discussion and role plays. In addition, trainees work hands-on with experienced tutors to troubleshoot potential problems and situations. Students will gain experience in group dynamics, communication skills, study strategies, referral resources, leadership, and creating a supportive learning environment. Teaching practice is an integral part of the training program. Students must complete an application in person or electronically at (http://www.cmu.edu/acadev/studentjobs/index.html) and then be interviewed by the instructor(s) to determine if the student possesses the basic qualifications.

Course Website: http://www.cmu.edu/acadev/studentjobs/

99-251 Seminar for Supplemental Instruction
Fall and Spring: 4.5 units
SPECIAL PERMISSION REQUIRED: YES The purpose of this training course is to provide undergraduates with the knowledge, skills and experience necessary to become effective Supplemental Instruction (SI) Leaders. Throughout the course, students will be exposed to the mission and goals of Academic Development and the Supplemental Instruction Program. The class lasts approximately nine weeks and is generally offered in the spring term from February through April. Course participants will actively explore collaborative learning instructional practices, learning theory, group dynamics, study strategies, and communication and leadership skills in order to create a supportive learning environment. Teaching practice is an integral part of the training program. Students must complete an application in person or electronically at (http://www.cmu.edu/acadev/studentjobs/index.html) and then be interviewed by the instructor(s) to determine if the student possesses the basic qualifications.

Course Website: http://www.cmu.edu/acadev/studentjobs/

99-252 Seminar for Academic Counseling
Fall and Spring: 4.5 units
SPECIAL PERMISSION REQUIRED: YES The purpose of this training course is to provide undergraduates with the knowledge, skills and experience necessary to become effective Academic Counselors (AC's). Throughout the course, students will be exposed to the mission and goals of Academic Development and the Academic Counseling Program. The class lasts approximately nine weeks and is generally offered in the spring term from February through April. Students will gain experience in effective and efficient study strategies, learning theory, communication skills, group dynamics, referral resources and how to create a supportive learning environment. Teaching practice is an integral part of the training program. Students must complete an application in person or electronically at (http://www.cmu.edu/acadev/studentjobs/index.html) and then be interviewed by the instructor(s) to determine if the student possesses the basic qualifications.

Course Website: http://www.cmu.edu/acadev/studentjobs/

99-270 Summer Undergraduate Research Apprenticeship
Summer
This course consists of student participation in projects focused on undergraduate research or creative inquiry under the direction of a Carnegie Mellon faculty member. Tenure track, teaching track, research track, librarian track, and special faculty may serve as SURA mentors. The subject of the inquiry, the number of units, and the criteria for grading are to be determined by the student and the faculty mentor. This agreement should be formalized in a one-page apprenticeship verification form that includes documented approval from the faculty mentor with a copy to be submitted to the Undergraduate Research Office (URO). In addition to the research experience, course requirements include an individual meeting with the student's career counselor at the Career and Professional Development Center (CPDC) to update the student's resume, an individual meeting with a tutor at the Global Communication Center (GCC) to begin to develop a professional biography, and presentation at Meeting of the Minds undergraduate research symposium during the subsequent spring semester. Students may register for a maximum of nine units with work to be completed over an eight-week period during the summer all term.

99-275 Summer ReCharge
Summer: 3 units
The goal of this course is to provide students with the tools they will need to become better equipped to handle the challenges they have or will face in their academic experiences. It is designed to promote student awareness of the necessary components of a successful educational experience. Each week, students will engage in self-awareness activities and group discussion of topics in key areas shown to be predictive of student success. Through discussion with peers, exposure to academic findings, and self-reflection essays, this course will provide students with the opportunity for self-growth and allow them to become better connected with the campus community.

99-352 IDeATe: Soft Fabrication Skills
Intermittent: 1 unit
PLEASE NOTE: The specific meeting dates for the A1 section of this micro course are September 23rd, September 30th, and October 7th. The specific meeting dates for the A2 section of this micro course are November 12th, November 19th, and December 3rd. Textiles are a ubiquitous part of our everyday tactile experience. This workshop series aims to introduce textile techniques to participants with diverse backgrounds across the CMU campus. The fabrication skills and concepts that will be covered in this course will be taught from an interdisciplinary approach to merge practices in arts and technology. Students will learn methods of working with fabric such as hand and machine sewing, felting and knitting, along with merging aspects of digital fabrication and physical computing using flexible materials. Through discussions and demos, participants will have the opportunity to explore new methods of fabrication to integrate into their own practice.

99-353 IDeATe: SolidWorks and Laser Cutting
Fall and Spring: 1 unit
PLEASE NOTE: The specific meeting dates for the A1 section of this micro course are September 2nd, September 9th, and September 16th. The specific meeting dates for the A2 section of this micro course are October 22nd, October 29th, and November 5th. This micro course is an introduction to Computer Aided Design (CAD) and the use of laser cutters for fabrication. Students will learn the basics of SolidWorks, a popular CAD package. They will also receive hands-on training in the use of laser cutters to turn their designs into physical objects. Students who complete this course PLUS the separate fire safety training will be able to use the IDeATe facility (Hunt Library) laser cutters on their own for future course work or personal projects.

99-354 IDeATe: Machine Shop, Lathe, Mill, Metrology
Fall and Spring: 2 units
Open to undergraduates, graduates, faculty, and staff! This course is an introduction to machining using the manual lathe and mill. Students will learn the culture of shop safety, the basics of metrology, and how to lathe and mill simple parts. Through two hands-on projects, the students will engage in the interactive process of ideating, making and reflecting. IMPORTANT: Students must wear closed-toe shoes and comfortable clothing. Students will be working around oil-based machines so please wear clothing that you are okay with getting stained. Also, NO JEWELRY and NO SHORTS while working in the Machine Shop. Emphasis on exercise-safe practices in the shop at all times.

99-355 IDeATe: Introduction to Arduino
Fall and Spring: 1 unit
PLEASE NOTE: The specific meeting dates for the A1 section of this micro course are September 23rd, September 30th, and October 7th. The specific meeting dates for the A2 section of this micro course are November 12th, November 19th, and December 3rd. This workshop aims to demystify the Arduino microcontroller through hands-on work in the lab creating simple machines with embodied behaviors. The Arduino is a versatile resource for physical projects for students in all disciplines. This course brings students over the beginner's threshold to a basic understanding of the use, terminology, and potential of the Arduino. The skills and concepts taught in this course are presented from an interdisciplinary approach which merges practices in arts and technology. The first portion will teach the essential skills for creating a simple sensor-driven physical computing system, and the second portion will reinforce those skills by making a simple interactive project. The course has no technical prerequisites, although uses a little bit of algebra-level math. Undergraduate students, graduate students, faculty and staff interested in learning new skills in an interdisciplinary environment are welcome!

Course Website: http://courses.ideate.cmu.edu/99-355

99-356 IDeATe: Digital Media Literacies: Great World Challenge
Fall and Spring: 9 units
This course introduces students to new media for ethically finding, evaluating, producing and sharing artistic and scholarly innovations. It allows students the opportunity to gain practice with and exposure to tools, technologies and processes which support data analysis, visualization, communication, presentation and sharing through a variety of emerging and established dissemination channels. Students who excel in the course may be further supported in identifying and pursuing appropriate publication outlets for their research. The course will be of particular interest to students planning to engage in further undergraduate research opportunities.

99-357 IDeATe: Pragmatic Phototgraphy
Fall and Spring: 1 unit
PLEASE NOTE: The specific meeting dates for the A1 section of this micro course are September 2nd, September 9th, and September 16th. The specific meeting dates for the A2 section of this micro course are October 22nd, October 29th, and November 5th. Pragmatic Photography is a digital imaging course for the non-photographer. A tech-first approach provides a strong grounding in the core concepts and techniques of image-based media. This course will enable students to create photographs for project documentation. This class will not require special cameras or software; students will use commonly-available photo-editing software to create images using DSLRs, point and click cameras, or their cell phones. The course focuses on general principles that apply across different equipment and software.

99-415 Internship in Educational Outreach
All Semesters
Missing Course Description - please contact the teaching department.

99-451 Building Fluency for Presentations: A class for nonnative English speakers
Fall and Spring: 4.5 units
Building Fluency for Presentations: A class for nonnative English speakers (NNES) is a 4.5 unit pass/fail mini designed to prepare undergraduate NNES to deliver effective oral presentations. The course will help students become familiar with the expectations of the US style of presenting and will offer opportunities to practice giving presentations on academic topics. Students will focus on developing a broad range of skills, including the ability to: 1) communicate clearly with an audience in academic English; 2) employ linguistic features such as stress, intonation, and nonverbal cues to clarify and emphasize information; 3) consider various organizational strategies; 4) assess speaking strengths and weaknesses; and 5) feel comfortable in the role of presenter. Prerequisite: Permission from the Intercultural Communication Center (ICC). Please call the ICC at 412-268-4979.

Course Website: http://www.cmu.edu/icc