

Appendix 1: The MOOC corpus information

MOOC corpora source (sum word count = **11,259,772**) (5 main fields) (30 + 30 + 24 + 20 + 20 = **124** courses)

MOOC course category: <https://www.mooc-list.com/initiatives-and-categories>

<http://www.onlinecoursereport.com/the-50-most-popular-moocs-of-all-time/>

1. Art and humanities: (total word count = 2,115,241) (5 subcategories x 6 = 30 courses)

Art and humanities					
subcategory	course name	instructor name	platform	link	word count
language & literature	1.Greek and Roman mythology	Peter Struck (M) University of Pennsylvania	Courser, 1male, native	belong to philosophy filed under Arts and Humanities on Coursera https://www.coursera.org/learn/mythology	164,031
	2. Miracles of Human language: An Introduction to Linguistics	Marc van Oostendorp (M) Universiteit Leiden, Meertens instituut (KNAW)	coursera	6 weeks user rating 4.5 https://www.coursera.org/learn/human-language	50,493
	3.Exploring English	British Council	future learn	6 weeks https://www.futurelearn.com/courses/explore-english-language-culture/4/todo/3420	17,735
	4. The Art of Poetry	Robert Pinsky(M), Duy Doan (M), Laura Marris(F), Calvin Olsen (M), Tomas Unger (M), Sarah Handley(F), Boston University	EdX	6 weeks, review 4/5 https://www.edx.org/course/art-poetry-bux-arpo222x-0	26,410
	5. Electronic literature	Mark Sample (M),	EdX	6 weeks, 2-4 hours/week,	19,960

		Kristen Eshleman (F), Robert McSwain(M), Sara Swanson(F) Davidson University		review 4.5/5 https://www.edx.org/course/electronic-literature-davidsonx-d004x	
	6. Masterpieces of World Literature	David Damrosch (M), Martin Puchner (M) Harvard University	edX	12 weeks, 5-7 hours/week review 4.5/5 https://www.edx.org/course/masterpieces-world-literature-harvardx-hum12x-0	134,148
history	1. Marriage and the Movies: A History	Jeanine Basinger(F) Wesleyan University	coursera	5 weeks of study, 4-6 hours/week https://www.coursera.org/course/marriageandmovies	42,180
	2. The Ancient Greeks	Andrew Szegedy-Maszak (M), Wesleyan University	coursera	3-5 hours/week, 7 weeks average user rating 4.7 https://www.coursera.org/learn/ancient-greeks	79,205
	3. The Book: The history of the Book in the 17th and 18th century Europe	Robert Darnton (M) . Harvard Univ. HarvardX's HUM.1.4x	EdX	1 week, 1-2hours per week user rating 4.5/5 https://www.edx.org/course/book-history-book-17th-18th-century-harvardx-hum1-4x	14,244
	4. China (part 1): Political and Intellectual Foundations: From the Sage Kings to Confucius and the Legalists	Peter K. Bol(M) William C. Kirby(M), HarvardX	EdX	6 weeks, 1.5-3.5 hours/week https://www.edx.org/course/china-part-1-political-intellectual-harvardx-sw12-1-0	69,617
	5. The Modern World, Part One: Global history from 1760 to 1910	Phillip Zelikow(M) University of Virginia	coursera	2-4 hours/week, 7 weeks user rating 4.8 https://www.coursera.org/learn/modern-world	405,375
	6. A Global History of World Architecture	Mark Jarzombek (M)	edX	12 weeks, 6 hours/week review 4.5/5	253,395

		MIT		https://www.edx.org/course/global-history-architecture-mitx-4-605x	
arts, architecture and design	1. Early Renaissance Architecture in Italy: from Alberti to Bramante	Francesco Paolo Fiore Sapienza University of Rome	coursera	10 weeks of study, 2-4 hours/week https://www.coursera.org/course/renaissancearchitecture	23,504
	2. Roman Art and Archaeology	David Soren University of Arizona	coursera	5 weeks https://www.coursera.org/learn/roman-art-archaeology	72,562
	3. Future Cities	Gerhard Schmitt Dirk Hebel Reinhard König Bernhard Klein Marcel Brülisauer Estefania Tapias Chen Zhong ETH Zurich	EdX	10 weeks, 3 hours per week https://www.edx.org/course/future-cities-ethx-fc-01x-2	17,887
	4. Product Design: The Delft Design Approach	Annemiek van Boeijen Jaap J.J. Daalhuizen TU Delft	EdX	7 weeks, 6-8 hours/week https://www.edx.org/course/product-design-delft-design-approach-delftx-dda691x-0	27,141
	5. History of Chinese Architecture	Wang Guixiang, Lv Zhou, Jia Jun, He Congrong, Liu Chang Tsinghua University	EdX	16 weeks, 4 hours/week user rating 4.5 https://www.edx.org/course/history-chinese-architecture-tsinghuax-80000901x	171,551
	6. Evaluating Designs with Users	Mark. W. Newman (M) University of Michigan	edX	4 weeks, 3-4 hours/week https://www.edx.org/course/evaluating-designs-users-michiganx-ux504x	49,618
music, film & studio	1. Introduction to Classical Music	Craig Wright (M) Yale University	coursera	9 weeks, 2-3 hours/week average user rating 4.9	168,949

				https://www.coursera.org/learn/introclassicalmusic	
	2. Scandinavian Film and Television	va Novrup Redvall University of Copenhagen	coursera	3-5 hours/week, 5 weeks https://www.coursera.org/learn/scandinavian-movies-tv	38,491
	3. Introduction to Music Theory	George Russell Jr. (M) Berklee College of Music	EdX	6 weeks, 5 hours/week review 4/5 https://www.edx.org/course/introduction-music-theory-berkleex-oharm100x-0	19,738
	4. Introduction to Italian Opera	Steve Swayne (M), Adam Nemeroff M), Dan Maxell Crosby (M), Pat Fiskén (F), Sawyer Broadley (M), Memory Apata (F), Dartmouth College	EdX	6 weeks, 3-4 hours/week review 4.5/5 https://www.edx.org/course/introduction-italian-opera-dartmouthx-dart-mus-01x	
	5. Religion and Hip Hop Culture	Anthony Pinn, Bernard Freeman University of Rice	EdX	6 weeks, 2-5 hours/week user rating 4.5 https://www.edx.org/course/religion-hip-hop-culture-ricex-reli157x	66,495
	6. Songwriting: Writing the lyrics	Pat Pattison (M) Berklee College	Coursera	7 weeks, 3-6 hours/week user rating 4.9 https://www.coursera.org/learn/songwriting-lyrics	59,116
philosophy	1. Introduction to Philosophy	Dr. Dave Ward(M) The University of Edinburgh	coursera	7 weeks, average user rating 4.5 https://www.coursera.org/learn/philosophy	53,460
	2. Ancient Philosophy: Plato & his Predecessors	Susan Sauvé Meyer University of Pennsylvania	coursera	4 weeks, average user rating 4.7 https://www.coursera.org/learn/plato	32,078

	3. Philosophy: Minds and Machines	Alex Byrne Damien Rochford MITx	EdX	12 weeks, 3-4 hours/week https://www.edx.org/course/philosophy-minds-machines-mitx-24-09x	118,843
	4. UQX: META 101x Philosophy and Critical Thinking	Deborah Brown(F) Peter Ellerton(M) The University of Queensland	EdX	4 weeks, 1-4 hours/week user rating 4.5 https://www.edx.org/course/philosophy-critical-thinking-uqx-meta101x-0	76,403
	5. Justice	HarvardX	EdX	2-4 hours/week, 12 weeks user rating 5 https://www.edx.org/course/justice-harvardx-er22-1x-0	81,178
	6. Human Rights Theory and Philosophy	Caroline Fleay (F) Curtin University	edX	12 weeks, 8-10 hours/week review 4.5/5 https://www.edx.org/course/human-rights-theory-philosophy-curtinx-hrig1x	60,089
sum					2,115,241

2. social science: (total word count = **2,186,744**) (5 subcategories x 6 = 30 courses)

social science					
subcategory	course name	instructor name	platform	link	word count
sociology	1.Social psychology	Scott Plous Wesleyan University	coursera	7 weeks of study, 4-8 hours/week https://www.coursera.org/course/socialpsychology https://class.coursera.org/socialpsychology-002/lecture	118,143

	2. Living with Dementia: Impact on Individuals, Caregivers, Communities and Societies	Nancy Hodgson(F), Laura N. Gitlin(F) Johns Hopkins University	coursera	5 weeks of study, 3-5 hours/week user rating 4.6 https://www.coursera.org/course/dementiacare https://www.coursera.org/learn/dementia-care	60,494
	3. Introduction to Sociology	Dr. Joanna Hadjicostandi UTPermianBasinX	EdX	6 weeks, 4-6 hours/week user rating 4.5 https://www.edx.org/course/introduction-sociology-utpermianbasinx-soci101x	21,154
	4.Global Sociology	Smitha Radhakrishnan Wellesley College	EdX	4 weeks, 2-3 hours/week user rating 4.5 https://www.edx.org/course/global-sociology-wellesleyx-soc101x	61,528
	5. Classical Sociology Theory	Bart van Heerikuizen University of Amsterdam	coursera	20-25 hours, user rating 4.8 https://www.coursera.org/learn/classical-sociological-theory	47,145
	6. Global inequity	Smitha Radharishnan Wellesley College	EdX	4 weeks, 2-3 hours/week review 4.5/5 https://www.edx.org/course/global-inequality-wellesleyx-soc102x	33,434
political science	1. Configuring the world	Richard Thomas Griffiths Universiteit Leiden	coursera	8 weeks of study, 4-6 hours/week https://www.coursera.org/course/configuringworld	75,177
	2. How to Change the World	Michael S. Roth Wesleyan University	coursera	6 weeks of study, 3-5 hours/week https://www.coursera.org/course/changetheworld	146,652
	3. Psychology of Political Activism: Women	Lauren Duncan Smith College	EdX	7 weeks, 3-5 hours/week user rating 4.5	20,295

	Changing the World			https://www.edx.org/course/psychology-political-activism-women-smithx-psy374x	
	4. Making Government Work in Hard Places	Jennifer Widner Princeton University	EdX	9 weeks, 3-5 hours/week user rating 4.5 https://www.edx.org/course/making-government-work-hard-places-princetonx-mgwx	86,575
	5. Understanding Europe: Why it matters and what it can offer to you	Alberto Alemanno (M) HEC Paris	coursera	6 weeks, 2-4 hours/week user rating 4.5 https://www.coursera.org/learn/europe	64,792
	6. Psychology of Political Activism: Women Changing the World	Lauren Duncan (F) Smith College	EdX	7 weeks, 2-3 hours/week https://www.edx.org/course/psychology-political-activism-women-smithx-psy374x-1	24,107
education	1. Copyright for Educators & Librarians	-Kevin Smith, Duke University Libraries -Lisa Macklin, Emory University - Anne Gilliland, The University of North Carolina at Chapel Hill	coursera	2-3 hours/week, 5 weeks average user rating 4.6 https://www.coursera.org/learn/copyright-for-education	44,233
	2. What Future for Education	Dr Clare Brooks (F) University of London, UCL Institute of Education	coursera	6-8 hours/week, 6 weeks https://www.coursera.org/learn/future-education	32,702
	3. Leaders of Learning	Eric Klopfer Scot Osterwell Judy Pery Harvard University	EdX	6 weeks, 2-4 hours/week user rating 4.5 https://www.edx.org/course/leaders-learning-harvardx-gse2x-0	36,581

	4. Design and Development of Educational Technology	MITx	EdX	9 weeks, 4-6 hours/week https://www.edx.org/course/design-development-educational-mitx-11-132x-0	97,797
	5. Supporting children with difficulties in reading and writing	Dr. Jenny Thompson(F) Dr. Vincent Goetry(M) University of London, UCL Institute of Education, Dyslexia International	coursera	6 weeks, 4-6 hours/week user rating 4.8 https://www.coursera.org/learn/dyslexia-difficulties	62,759
	6. Foundations of Teaching for Learning I: Introduction	Professor John MacBeath,(M) Commonwealth Education Trust	coursera	4 weeks, 3-4hours/week user rating 4.4 https://www.coursera.org/learn/teaching	22,070
economics & finance, also include: -1) business and management - 2) marketing, communication	1. Model thinking	Scott Page, Professor of Complex Systems, Political Science, and Economics University of Michigan	coursera	4-8 hours/week, 12 weeks rated 4.8 out of 5 of 422 ratings https://www.coursera.org/learn/model-thinking	229,862
	2.Competitive Strategy	Tobias Kretschmer, Professor Ludwig-Maximilians-Universität München (LMU)	coursera	average user rating 4.7 10 hours of videos and quizzes https://www.coursera.org/learn/competitivestrategy	54,668
	3. Introduction to Marketing	Darren Dahl Paul Cubbon the University of British Columbia	EdX	6 weeks, 3-4 hours/week user rating 4.5 https://www.edx.org/course/introduction-marketing-ubcx-marketing1x	46,374

	4. Introduction to Economics—Part 1: Microeconomics	Hyejung Yoon Joon Koo Lee Seoul National University	coursera	7 weeks, 4-5 hours/week https://www.edx.org/course/introduction-economics-part-1-snu-snu044-088-1x	83,095
	5. Financial Engineering and Risk Management II	Martin Haugh (M) Garud Iyengar (M) Columbia University	coursera	13 hours user rating 4.7 https://www.coursera.org/learn/financial-engineering-2	127,820
	6. Finance and Investing in Infrastructure	Stefanno Gatti (M) Università Bocconi	coursera	6 weeks, 1-2 hours/week user rating 4.8 https://www.coursera.org/learn/infrastructure-investing	45,597
law	1. Internet Giants: The Law and Economics of Media Platform	Randal C. Picker, James Parker Hall Distinguished Service Professor of Law and Ludwig & Hilde Wolf Teaching Scholar The University of Chicago	coursera	about 23 hours of videos and assessments, 9 weeks average user rating 4.8 https://www.coursera.org/learn/internetgiants	187,162
	2. Introduction to International Criminal Law	Michael Scharf, Interim Dean and Joseph C. Hostetler – Baker & Hostetler Professor of Law Case Western Reserve University	coursera	7-8 hours of lectures and assignments, 8 weeks average user rating 4.7 self-paced https://www.coursera.org/learn/international-criminal-law	65,064
	3. American Government	Thomas E. Patterson	EdX	16 weeks, 3 hours/week	104,490

		Harvard University		user rating 5 <a href="https://www.edx.org/course/american-governme
nt-harvardx-hks101a">https://www.edx.org/course/american-governme nt-harvardx-hks101a	
	4. Contract Law: From Trust to Promise to Contract	Charles Fried Harvard University	EdX	8 weeks, 2-3 hours/week user rating 5 <a href="https://www.edx.org/course/contract-law-trust-
promise-contract-harvardx-hls2x-0">https://www.edx.org/course/contract-law-trust- promise-contract-harvardx-hls2x-0	54,222
	5. European business law: doing business in Europe	Juian Noweg (Male) Xavier Grousot (M, Mia Rönner (F) Cecile Brokelind (F) Sanja Bogojevic (F) Michael Bogdan(M) Niklas Arvidsson(M) Lund University	coursera	6 weeks, 10-15 hours/week user rating 4.7 <a href="https://www.coursera.org/learn/eu-law-doing-b
usiness">https://www.coursera.org/learn/eu-law-doing-b usiness	39,004
	6. International Law	Pierre d'Argent (M) University of Louvain	edX	8 weeks, 5-7 hours/week <a href="https://www.edx.org/course/international-law-lo
uvainx-louv5x-2">https://www.edx.org/course/international-law-lo uvainx-louv5x-2	93,758
sum					2,186,744

3. Life science (total word count = **2,445,813**) (4 subcategories x 6 = 24 courses)

Life science					
subcategory	course name	instructor name	platform	link	word count
biology	1. Introduction to	Jennifer Carbrey	coursera	22 hours of videos and assessment	160,406

	Human Psychology	Emma Jakoi, Duke University		average user rating 4.7 https://www.coursera.org/learn/physiology	
	2. The Addicted Brain	Michael Kuhar, Professor Emory University	coursera	3-4 hours/week, 7 weeks average user rating 4.5 https://www.coursera.org/learn/addiction-and-the-brain	39,974
	3. Introduction to Biology – The Secret of Life	Eric S. Lander, Graham Walker, Michelle Mischke, Brian White, Mary Ellen Wiltrout MIT	EdX	12 weeks, 7-14 hours/week https://www.edx.org/course/introduction-biology-secret-life-mitx-7-00x-2	246,958
	4. Essential Human Biology: Cells and Tissues	Mario Ricci, Rachel Gibson, Sophie Karaicolas, Catherine Selling, Femke Buisman-Pijman The University of Adelaide	EdX	5 weeks, 2-3 hours/week user rating 4.5 https://www.edx.org/course/essential-human-biology-cells-tissues-adelaidx-humbio101x-1	21,480
	5. The Biology of Water and Health – Sustainable Interventions	David M. Gute (M) Jeffrey Griffiths (M) Carolyn Talmadge (F) Open education Consortium	EdX	5 weeks, 3-6 hours/week rating 4/5 https://www.edx.org/course/biology-water-health-sustainable-oecx-ph242x	148,153
	6. Genomics: Decoding the Universal Language of Life	Gene E. Robinson (M) University of Illinois at Urbana-Champaign	coursera	6 weeks, 6-8 hours user rating 5 https://www.coursera.org/learn/genomics-research	51,204
health science	1. Case Studies in	Dan Roden	coursera	2-4 hours/week, 6 week	94,305

1) health & society 2) medicine & pharmacology 3) sports 4) veterinary	Personalized Medicine	Vanderbilt University		average user rating 4.8 https://www.coursera.org/learn/personalizedmed	
	2. EDIVET: Do you know what it takes to be a veterinarian?	Jessie Paterson, Kay Aitchison Prof Susan Rhind Gurå Bergkvist Rachel Whittington Catriona Bell, Andrew Gardiner, University of Edinburgh	coursera	15-20 hours https://www.coursera.org/learn/becoming-a-veterinarian	39,349
	3. Health and Society	Ichiro Kawachi (M) Monica Wang (F) Harvard University	EdX	8 weeks, 2-5 hours/week user rating 4.5 https://www.edx.org/course/health-society-harvardx-ph201x	86,003
	4. An Introduction to Global Health	Anna Mia Ekström, Asli Kulane, Helena Nordenstedt, Hans Rosling Karolinska Institute	EdX	6 weeks, 2-5 hours/week user rating 4.5 https://www.edx.org/course/introduction-global-health-kix-kiglobalhx	37,763
	5. Medical Neuroscience	Leonard E.While (M) Duke University	coursera	13 weeks, user rating 4.9 https://www.coursera.org/learn/medical-neuroscience	364,787
	6. The Body Matters: Why Exercise Makes you Healthy and How to stay Uninjured	Dr. Ian Shrier (M),/ Guest speakers are: Patrice Aubertin (M), Steven Blair (M),	edX	10 weeks, 3-5hours week review 4.5/5 https://www.edx.org/course/body-matters-why-exercise-makes-you-mcgillx-body101x-0	153,103

		Gloria Cohen(F), Isabelle Duchesne(F) Kerry Gordon(F), Abe Kestenberg(M) Paul McCrory(M) Michael Montanaro(M) Margo Mountjoy(F) Bernard Petiot(M) Andrew Pipe(M) Robert E.Sallis(M) McGill University			
food & nutrition	1. Stanford Introduction to Food and Health	Maya Adam Stanford University	coursera	5 weeks of study, 1 hour/week average user rating 4.6 https://www.coursera.org/learn/food-and-health	21,989
	2. Economic Issues, Food & You	Jennifer Clark University of Florida	coursera	10 weeks of study, 4-6 hours/week https://www.coursera.org/course/ecfoodandyou	53,769
	3. Nutrition and Health Part 1: Macronutrients and Overnutrition	Sander Kersten Wageningen University	EdX	8 weeks, 6-8 hours/week user rating 4.5 https://www.edx.org/course/nutrition-health-part-1-macronutrients-wageningenx-nutr101x-0	37,753
	4. Nutrition and Health Part 2: Micronutrients and Malnutrition	Sander Kersten Wageningen University	EdX	7 weeks, 6-8 hours/week user rating 4.5 https://www.edx.org/course/nutrition-health-part-2-micronutrients-wageningenx-nutr102x-0	55,904
	5. Food Security and Sustainability: System	Dr. I.J.M. de Boer(F) Carolie Kroeze(F)	edX	6 weeks, 8-10 hours/week review 4/5	43,602

	thinking and environmental sustainability	Gerrie van de Ven (F) Dr. Eddie Bookers(M) Martin van Ittersum(M) Wageningen University & Research		https://www.edx.org/course/food-security-sustainability-systems-wageningenx-ffesx	
	6. The New Nordic Diet—from Gastronomy to Health	Dr. Arne Astrup (M) University of Copenhagen	coursera	5 weeks, 4-5 hours/week user rating 4.4 https://www.coursera.org/learn/new-nordic-diet	41,678
psychology	1. A life of Happiness and Fulfillment	Dr. Rajagopal Raghunathan, Indian School of Business	coursera	best 2015 free online course, No1. 6 weeks of study, 2-3hours/week average user rating 4.8 https://www.coursera.org/learn/happiness	128,129
	2. introduction to Psychology	Steve Joordens University of Toronto	coursera	8 weeks of study, 4-6 hours/week https://www.coursera.org/course/intropsych	227,355
	3. Introduction to Psychology	Jeneen Graham (F), Jeremy Dailey (M) ,Amanda Compton (M), Teomara Rutherford (F), Tait Lihme (M) St. Margaret's Episcopal School	EdX	10 weeks, 4-5 hours/week user rating 5 https://www.edx.org/course/introduction-psychology-st-margarets-episcopal-school-psych101x-0	20,983
	4. Useful Genetics Part 1: How our Genes Shape Us	Rosemary Redfield University of British Columbia	EdX	7 weeks, 6-8 hours/week user rating 5 https://www.edx.org/course/useful-genetics-part-1-how-genes-shape-ubcx-usegen-1x-0	106,652
	5. Moralities of	Paul Blooms (M)	coursera	6 weeks, user rating 4.8	185,297

	Everyday Life	Yale University		https://www.coursera.org/learn/moralities	
	6. Introduction to Social Psychology	Blake McKimmie (M), Roy Baumeistere (M) The University of Queensland, Australia	edX	7 weeks, 1-2 hours/week review 4.5/5 https://www.edx.org/course/introduction-social-psychology-uqx-psyc1030-1x	79,237
sum					2,445,813

4. Physical science: (total word count = **2,110,632**) (4 subcategories x 5 = 20 courses)

Physical science					
subcategory	course name	instructor name	platform	link	word count
physics, astronomy	1. Understanding Einstein: The Special Theory of Relativity	Larry Randles Lagerstrom Stanford University	coursera	8 weeks of study, 2-8 hours/week https://www.coursera.org/course/einstein	477,365
	2. Imagining Other Earths	David Spergel(M) Princeton University	coursera	20 hours of videos and assignment, 24 weeks average user rating 4.8 https://www.coursera.org/learn/life-on-other-planets	164,169
	3. Astrophysics: Exploring Exoplanets	Brian Schmidt, Paul Francis Australian National University	EdX	9 weeks, 3 hours/week user rating 5 https://www.edx.org/course/astrophysics-exploring-exoplanets-anux-anu-astro2x-1	101,360
	4. Astrophysics. the violent universe	Brian Schmidt, Paul Francis Australian National University	EdX	9 weeks, 3 hours/week user rating 5 https://www.edx.org/course/astrophysics-violent-universe-anux-anu-astro3x-0	109,073

	5. How Things Work: An introduction to physics	Louis A. Bloomfield (M) University of Virginia	coursera	8 weeks, 11 hours user rating 4.8 https://www.coursera.org/learn/how-things-work	81,487
chemistry	1. General Chemistry: Concept Development and Application	John Hutchinson (M) Rice University	coursera	11 weeks average user rating 4.6 https://www.coursera.org/learn/general-chemistry	160,171
	2. Introduction to Physical Chemistry	Patrick O'Malley (M) Michael Anderson (M) Jonathan Agger (M) University of Manchester	coursera	10 weeks, 12-15 hours average user rating 4.6 https://www.coursera.org/learn/physical-chemistry	71,978
	3. Medicinal Chemistry: The Molecular Basis of Drug Discovery	Erland Stevens Davidson College	EdX	7 weeks, 6-8 hours/week user rating 4.5 https://www.edx.org/course/medicinal-chemistry-molecular-basis-drug-davidsonx-d001x-1	75,227
	4. Science in Art: The Chemistry of Art Materials and Conservation	Henry DePhillips Trinity College	EdX	6 weeks, 3-4 hours/week user rating 4.5 https://www.edx.org/course/science-art-chemistry-art-materials-trinityx-t001x	25,555
	5. Introduction to Chemistry: Structures and Solutions	Dorian A. Canelas (F) Duke University	coursera	7 weeks, user rating 4.8 https://www.coursera.org/learn/basic-chemistry	99,465
engineering	1. Mechanic Materials I: Foundations of Stress & Strain and Axial Loading	Dr. Wayne Whiteman, Georgia Institute of Technology	coursera	5 weeks, 5-7hours/week average user rating 4.8 https://www.coursera.org/learn/mechanics-1	34,766

	2. Converter Circuits	Robert Erickson University of Colorado Boulder	coursera	4 weeks, 1-3 hours/week average use rating 4.8 https://www.coursera.org/learn/converter-circuits	52,092
	3. Mechanical Behavior of Materials, Part 1: Linear Elastic Behavior	Lorna j. Gibson MIT	EdX	5 weeks, 12 hours/week user rating 4.5 https://www.edx.org/course/mechanical-behavior-materials-part-1-mitx-3-032-1x	54,039
	4. Sustainable Urban Development: Discover Advanced Metropolitan Solutions	Arjan van Timmeren, Huub H.M. Rijnaarts, Mariette Overschie, Marc Spiller Delft University of Technology Wageningen University	EdX	7 weeks, 4-6 hours/week user rating 5 https://www.edx.org/course/sustainable-urban-development-discover-delftx-wageningenx-ams-urb-1x	73,084
	5. Digital Systems: From Logic Gates to Processors	Elena Valderrama(F), Jean-Pierre Deschamps (M), Lluís Teres (M), Merce Rullan (F), Joaquín Saiz Alcaine (M), David Baneres (M), Juan Antonio Martínez (M) Universitat Autònoma de Barcelona	coursera	8 weeks, 4 hours/week user rating 4.5 https://www.coursera.org/learn/digital-systems	74,321
energy & earth	1. Our Earth: Its Climate, History, and Processes	Prof. David M. Schultz Dr. Rochelle Taylor	coursera	5 weeks of study, 5-8 hours/week https://www.coursera.org/course/ourearth	30,848

science		Dr. Jonathan Fairman University of Manchester			
	2. Our Energy Future	Stephen Mayfield University of California, San Diego	coursera	45 hours of videos, quizzes, and peer reviews average user rating 4.7 https://www.coursera.org/learn/future-of-energy	253,851
	3. Natural Disasters	John Gyakum John Stix McGill	EdX	12 weeks, 5 hours/week average user rating 4.5 https://www.edx.org/course/natural-disasters-mcgillx-atoc185x-1	107,494
	4. Introduction to Environmental Science	Andrew J. Friedland, Michael Goudzwaard, Joby Bernstein '17, Chloe Madill '17, Justin Richardson, R. Michael Murray, Sawyer Broadley '08 Dartmouth College	EdX	4 weeks, 5 hours/week user rating 5 https://www.edx.org/course/introduction-environmental-science-dartmouthx-dart-envs-02x	31,455
	5. Greening the Economy: Sustainable Cities	Kes. McCormick(M), Lena Neji(F), James Evans(M), Harriet Bulkeley(F), Lund University	coursera	5 weeks, 5 hours/week user rating 4.6 https://www.coursera.org/learn/gte-sustainable-cities	456,480
sum					2,110,632

5. Information, computer science & mathematics (word count= 2,401,342) (4 subcategories x 5 = 20 courses)

Information, computer science & mathematics					
subcategory	course name	instructor name	platform	link	word count
computer science: 1) artificial intelligence, robotics, vision 2) system security, networking 3) programming & software engineering	1. computer science 101	Nick Parlante Stanford University	coursera	3-5hours/week , 6 weeks https://class.coursera.org/cs101-selfservice	75,796
	2. Programming for everyone (getting started with Python)	Charles Severance, Associate Professor University of Michigan,	coursera	Course 1 of 5 in the Python for Everyone Specification 2-4 hours/week, 7 weeks average user rating 4.8 https://www.coursera.org/learn/python	103,227
	3.Intro to computer science	David Evans,	Udacity	Join 543,467 students https://www.udacity.com/course/intro-to-computer-science--cs101	162,159
	4.Introduction to computer science	-David J.Malan -Rob Bowden -Zamyla Chen -Doug Lloyd HarvardX	EdX	9 problems set (10 to 20 hours each), 1 final project https://www.edx.org/course/introduction-computer-science-harvardx-cs50x	117,968
	5. Machine Learning	Andrew Ng (M) Stanford University	coursera	11 weeks user rating 4.9 https://www.coursera.org/learn/machine-learning	193,659
robotics & electronics (electronic engineering)	1. Fundamentals of Audio and Music Engineering: Part 1 Music Sounds & Electronics	Robert Clark, Mark Bocko, University of Rochester	coursera	12 hours of lectures and assignments average user rating 4.5 https://www.coursera.org/learn/audio-engineering	92,413
	2. Artificial Intelligence Planning	Dr. Gerhard Wickler, Prof. Austin Tate	coursera	7 weeks, 3-8 hours/week https://www.coursera.org/course/aiplan	113,921

		University of Edinburgh			
	3. Electronic Interfaces: Bridging the Physical and Digital World	Michel M. Maharbiz, Tom Zajdel University of California, Berkeley	EdX	8 weeks, 6-10 hours/week https://www.edx.org/course/electronic-interfaces-bridging-physical-uc-berkeleyx-ee40lx-0	98,590
	4. Robot Mechanics and Control, Part I	Frank C. Park, Keunjun Choi, Yongsuk Hong, Wooyoung Kim, Seunghyeon Kim, Hyungjoon Cho Seoul National University	EdX	6 weeks, 5-8 hours/week; 2-3 hours for lectures, 3-5 hours for homework/self-study user rating 4 https://www.edx.org/course/robot-mechanics-control-part-i-snu-snu446-345-1x	45,063
	5. Circuits and Electronics 1: Basic Circuit Analysis	Anant Agarwal (M), Gerald Sussman(M), Piotr Mitros(M), Chris Terman (M), Bonnie Lam (F) MIT (Massachusetts Institute of Technology)	edx	5 weeks, 6 hours/week review 5/5 https://www.edx.org/course/circuits-electronics-1-basic-circuit-mitx-6-002-1x-0	120,308
mathematics	1. Introduction to Mathematical Thinking	Dr. Keith Devin Stanford Univ.	coursera	10 weeks of study, 8-10 hours/week https://www.coursera.org/course/maththink	153,518
	2. Calculus One	Jim Fowler The Ohio State University	coursera	25 hours of videos and quizzes user rating 4.8 https://www.coursera.org/learn/calculus1	174,240
	3. Fun with Prime	Tetsushi Ito	EdX	4 weeks, 1 hour/week	11,078

	Numbers: The Mysterious World of Mathematics	Kyoto University		user rating 4.5 https://www.edx.org/course/fun-prime-numbers-mysterious-world-kyotoux-004x-0	
	4. Introduction to Differential Equations	Paul Blanchard Kyle Vigil Boston University	EdX	7 weeks, 8-10 hours/week user rating 4.5 https://www.edx.org/course/introduction-differential-equations-bux-math226-1x-0	72,483
	5. I “Heart” Stats: Learning to Love Statistics	Dan Myers (M) University of Norte Dame	edX	9 weeks, 4-6 hours/week review 4.5/5 https://www.edx.org/course/i-heart-stats-learning-love-statistics-notredamex-soc120x	96,028
data science 1) information, technology, and design 2) statistics & data analysis	1. Machine Learning	Andrew Ng, Associate Professor, Stanford University; Chief Scientist, Baidu; Chairman and Co-founder, Coursera Stanford University	coursera	11 weeks average user rating 4.9 https://www.coursera.org/learn/machine-learning	190,151
	2. The Data Scientist's Toolbox	Jeff Leek, Associate Professor, Harvard University; Roger D. Peng, PhD, Harvard University; Brian Caffo, Johns Hopkins University	coursera	course 1 of 10 in the Data Science Specialization 1-4 hours/week, 4 weeks https://www.coursera.org/learn/data-scientists-tools	25,940
	3. Data Science Orientation	Graeme Malcolm Liberty J. Munson Microsoft	EdX	6 weeks, 2-4 hours/week user rating 4.5 https://www.edx.org/course/data-science-orientation-microsoft-dat101x	25,559
	4. Introduction to	John Tsitsiklis, Patrick	EdX	16 weeks, 12 hours/week	373,883

	Probability—The Science of Uncertainty	Jaillet, Zied Ben Chaouch, Dimitri Bertsekas, Qing He, Jimmy Li, Jagdish Ramakrishnan, Katie Szeto, Kuang Xu MIT		user rating 5 https://www.edx.org/course/introduction-probability-science-mitx-6-041x-1	
	5. Data Science Ethics	H. V. Jagdish (M) University of Michigan	edX	4 weeks, 3-4 hours/week https://www.edx.org/course/data-science-ethics-michiganx-ds101x-1	36,819
sum					2,401,342