

**VIT[®]****Vellore Institute of Technology**

(Deemed to be University under section 3 of UGC Act, 1956)

VITCC/ACADCC/Winter 2021-22/11

24-12-2021

CIRCULAR**Online Courses Permitted for Credit Transfer - NPTEL**

1. Only one online course per student will be permitted for credit transfer during Winter Semester 2021-2022.
2. Students who have registered for online NPTEL course in the previous semester(s) are also permitted to register during this semester.
3. Maximum credits permitted for credit transfer is 12 (equivalent to the credits under UE).
4. Student can opt the courses listed in the Annexure and get the approval from the HoD.
5. Approval from the HoD is a mandatory requirement. Subsequent to the approval, the students should register for the NPTEL courses directly.
6. After successful completion of the online course, the student should upload the weekly progress sheet and the final course completion certificate (as one pdf file) on V-TOP.
7. Absolute grading methodology will be followed and FFCS-CAL regulation will be followed for deciding the grade.
8. Credits registered for online courses will be in addition to the maximum credit (27) permitted for the winter semester 2021-2022.
9. Students are also required to pay the examination fee related to the online course by themselves. However, after successful completion (minimum 'E' grade) of the course, arrangement will be made to reimburse the examination fee to the students.
10. Reimbursement of the fee will not be entertained if the student fail to secure the minimum pass mark (50%). The 'Fail' history will not be recorded in the academic history of the student. This consideration is only for the online course.
11. Students who fail to clear the online course can register for the courses offered in regular mode on campus. This will be considered as a regular (first time) registration and not as a re- registration or substitution.
12. Online courses permitted for credit transfer are not permitted for marks in Additional Learning category.
13. Option for grade improvement is not available for these online courses.
14. If a student registers for the maximum number of credits under UE, then the current registration of the online course becomes automatically invalid and therefore, the credits will not be transferred even if the student successfully completes the online course.

15. If a student registers for a course in the regular mode at VIT and an online course offered by NPTEL during the same semester, then the course registered in the regular mode at VIT is considered for grading. This condition is applicable if the maximum credit limit in UE is reached.
16. If a student registers for a course in the regular mode at VIT and an online course offered by NPTEL during the same semester and clears the NPTEL course but not the course in regular mode, then the grade obtained in the NPTEL course will not be substituted for the failed (N/F) course registered in the regular mode. As per rule, courses registered in the same semester cannot be substituted with each other.
17. In case of additional queries, the student is required to meet the concerned HoD.



Dr.Nayeemulla Khan A

Dean - Academics



NPTEL Courses for Credit Transfer

Code	Title	Credits
MOC1901	Advanced Green Manufacturing Systems	3
MOC1902	Introduction to Cognitive Psychology	3
MOC1903	Introduction to Political Theory	3
MOC1904	Six Sigma	3
MOC1905	Emotional Intelligence	2
MOC1906	Manufacturing Strategy	2
MOC1907	Supply Chain Analytics	2
MOC1908	Systems Engineering: Theory and Practice	2
MOC1909	Design Thinking - A Primer	1
MOC1910	MCDM Techniques Using R and MARLAB	1
MOC1911	Perspectives on Neurolinguistic	1
MOC1912	Sociology of Science	1
MOC1913	Contemporary Themes in India's Economic Development and Economic Survey	3
MOC1914	Problem Solving through Programming in C	3
MOC1915	Design and Analysis of Algorithms	2
MOC1916	Computer Vision	3
MOC1917	Spatial Informatics	2
MOC1918	Practical Machine Learning with Tensorflow	2
MOC1919	Training of Trainers	3
MOC1920	Knowledge Management	2
MOC1921	Leadership	1
MOC1922	Educational Leadership	2
MOC1923	Cost Accounting	1
MOC1924	Practitioners Course In Descriptive, Predictive and Prescriptive Analytics	2
MOC1925	Decision-Making Under Uncertainty	1
MOC1926	Data Analysis and Decision Making - III	3
MOC1927	Business Analytics and Data Mining Modeling Using R Part II	1
MOC1928	Business Analytics and Text Mining Modeling Using Python	2
MOC1929	Economics of Health and Health Care	2
MOC1930	Human Resource Development	3
MOC1931	Performance and Reward Management	3
MOC1932	Corporate Social Responsibility	2
MOC1933	E-Business	3
MOC1934	Innovation, Business Models and Entrepreneurship	2
MOC1935	The Ethical Corporation	2
MOC1936	Toyota Production System	2
MOC1937	Intellectual Property Rights and Competition Law	2
MOC1938	Patent Search for Engineers and Lawyers	2
MOC1939	Role of Craft and Technology in Interior - Architecture	2
MOC1940	Glass In Buildings : Design And Applications	3
MOC1941	Visual Perception and Art: A Survey Across the Cultures	1
MOC1942	Mapping Signal Processing Algorithms to Architectures	3
MOC1943	Introduction to Computer Vision	3
MOC1944	Op-Amp Practical Applications: Design, Simulation and Implementation	3
MOC1945	Fabrication Techniques for MEMS - based sensors: clinical Perspective	3

MOC1946	Linear System Theory	3
MOC1947	Advanced Linear Continuous Control Systems: Applications with MATLAB Programming and Simulink	2
MOC1948	Introduction to Wireless and Cellular Communications	3
MOC1949	Digital Switching - I	2
MOC1950	Microelectronics: Devices To Circuits	3
MOC1951	Digital Image Processing	3
MOC1952	Pattern Recognition and Application	3
MOC1953	Microwave Theory and Techniques	3
MOC1954	Principles and Techniques of Modern Radar Systems	3
MOC1955	Computational Electromagnetics	3
MOC1956	Microwave Engineering	3
MOC1957	Introduction to parallel Programming in Open MP	1
MOC1958	Reinforcement Learning	3
MOC1959	Applied Natural Language Processing	3
MOC1960	Python for Data Science	1
MOC1961	Data Science for Engineers	2
MOC1962	Scalable Data Science	2
MOC1963	Advanced Computer Architecture	2
MOC1964	Software Project Management	3
MOC1965	Software testing	3
MOC1966	Hardware Modeling using Verilog	2
MOC1967	Synthesis of Digital Systems	3
MOC1968	Switching Circuits and Logic Design	3
MOC1969	Demystifying networking	1
MOC1970	Modern Algebra	2
MOC1971	Introduction to Haskell Programming	2
MOC1972	Flow through Porous Media	3
MOC1973	Bioenergy	2
MOC1974	Introduction to Biostatistics	2
MOC1975	Nanotechnology in Agriculture	2
MOC1976	Computer Aided Drug Design	2
MOC1977	Drug Delivery: Principles and Engineering	3
MOC1978	Functional Genomics	1
MOC1979	Introduction to Proteogenomics	3
MOC1980	Introduction to Mechanobiology	2
MOC1981	WildLife Conservation	2
MOC1982	Organic Chemistry in Biology and Drug Development	3
MOC1983	Bioinorganic Chemistry	1
MOC1984	Spectroscopic Techniques for Pharmaceutical and Biopharmaceutical Industries	3
MOC1985	Biophysical chemistry	3
MOC1986	Deep Learning	3
MOC1987	Blockchain Architecture Design and use Cases	3
MOC1988	Ethical Hacking	3
MOC1989	Organic Farming for Sustainable Agricultural Production	2
MOC1990	Positive Psychology	2
MOC1991	Forests and their Management	3

MOC1992	Forest Biometry	2
MOC1993	Bioengineering: An Interface with Biology and Medicine	2
MOC1994	Human Molecular Genetics	1
MOC1995	Bioenergetics of Life Processes	1
MOC1996	Computational Systems Biology	3
MOC1997	Bio-Informatics: Algorithms and Applications	3
MOC1998	Biostatistics and Design of Experiments	2
MOC1999	Medical Biomaterials	2
MOC2000	Demystifying the Brain	1
MOC2001	Principles and Applications of NMR Spectroscopy	2
MOC2002	Cell Culture Technologies	2
MOC2003	Natural Hazards	2
MOC2004	Modern Construction Materials	3
MOC2005	Energy Efficiency, Acoustics and Daylighting in Building	3
MOC2006	Fire Protection, Services and Maintenance Management of Building	3
MOC2007	Electronic Waste Management - Issues And Challenges	1
MOC2008	Higher Surveying	3
MOC2009	Environmental Remediation of Contaminated Sites	3
MOC2010	Soil Structure Interaction	3
MOC2011	Introduction to Accounting and Finance for Civil Engineers	2
MOC2012	Scheduling Techniques in Projects	1
MOC2013	GPS Surveying	1
MOC2014	Sustainable Materials and Green Buildings	3
MOC2015	Geomorphic Processes: Landforms and Landscapes	2
MOC2016	Introduction To Process Modeling in the Membrane Separation Process	1
MOC2017	Computational Geometry	3
MOC2018	Compiler Design	3
MOC2019	Embedded System Design with ARM	2
MOC2020	VLSI Physical Design	3
MOC2021	Cloud computing	2
MOC2022	Artificial Intelligence : Knowledge Representation And Reasoning	3
MOC2023	Privacy and Security in Online Social Media	2
MOC2024	Information Security - 5 - Secure Systems Engineering	2
MOC2025	Model Checking	3
MOC2026	Randomized Algorithms	3
MOC2027	GPU Architectures and Programming	3
MOC2028	Multi-Core Computer Architecture - Storage and Interconnects	2
MOC2029	Data Analytics with Python	3
MOC2030	Arithmetic Circuit Complexity	3
MOC2031	Google Cloud Computing Foundation Course	2
MOC2032	Consumer Behaviour	2
MOC2033	Enhancing Soft Skills and Personality	2
MOC2034	Introduction to Airplane Performance	2
MOC2035	Rocket Propulsion	3
MOC2036	Aircraft Maintenance	1
MOC2037	Sustainable Architecture	3
MOC2038	Introduction to History of Architecture in India	1

MOC2039	Structure, Form, and Architecture : The Synergy	2
MOC2040	Interactomics : Basics and Applications	3
MOC2041	Introduction to Professional Scientific Communication	1
MOC2042	Material and Energy Balances	3
MOC2043	Thermodynamics for Biological Systems: Classical and Statistical Aspect	3
MOC2044	Optical Spectroscopy and Microscopy : Fundamentals of Optical Measurements and Instrumentation	3
MOC2045	Fundamentals of Semiconductor Devices	3
MOC2046	Characterization of Construction Materials	3
MOC2047	Introduction to Civil Engineering Profession	2
MOC2048	Environmental Geomechanics	3
MOC2049	Mechanical Characterization of Bituminous Materials	3
MOC2050	Geosynthetics and Reinforced Soil Structures	3
MOC2051	Geotechnical Engineering II Foundation Engineering	3
MOC2052	Landscape Architecture and Site Planning - Basic Fundamentals	2
MOC2053	Plastic Waste Management	2
MOC2054	Advanced Topics in the Science and Technology of Concrete	1
MOC2055	Applied Environmental Microbiology	3
MOC2056	Digital Land Surveying And Mapping (DLS&M)	2
MOC2057	Earthquake Geology: A tool for Seismic Hazard Assessment	3
MOC2058	Introduction to Geographic Information Systems	1
MOC2059	Structural Dynamics	3
MOC2060	Water Supply Engineering	3
MOC2061	Geo Spatial Analysis in Urban Planning	1
MOC2062	Geotechnical Engineering - 1	3
MOC2063	Maintenance and Repair of Concrete Structures	3
MOC2064	Thermodynamics	3
MOC2065	Geomorphology	3
MOC2066	Remote Sensing Essentials	3
MOC2067	Hydraulic Engineering	3
MOC2068	Environmental Quality Monitoring and Analysis	3
MOC2069	Electrochemical Technology in Pollution Control	2
MOC2070	Advanced Thermodynamics	3
MOC2071	Membrane Technology	3
MOC2072	Computational Fluid Dynamics	3
MOC2073	Transport phenomena	3
MOC2074	Optimization in Chemical Engineering	3
MOC2075	Soft Nano Technology	2
MOC2076	Transport processes I - Heat and Mass Transfer	3
MOC2077	Process Control - Design, Analysis and Assessment	3
MOC2078	Heat Transfer	3
MOC2079	Chemical Reaction Engineering II	3
MOC2080	Multiphase Flows	2
MOC2081	Mass Transfer Operations - I	3
MOC2082	Waste to Energy Conversion	2
MOC2083	Equipment Design : Mechanical Aspects	1
MOC2084	An Introduction to Cardiovascular Fluid Mechanics	1

MOC2085	Computer Aided Applied Single Objective Optimization	2
MOC2086	Basic Principles and Calculations in Chemical Engineering	3
MOC2087	Introduction to Blockchain Technology and Applications	2
MOC2088	Foundations of Cryptography	3
MOC2089	Introduction to Database Systems	3
MOC2090	Operating System	3
MOC2091	Programming in C++	2
MOC2092	Programming in Java	3
MOC2093	Data Base Management System	2
MOC2094	Introduction to Algorithms and Analysis	3
MOC2095	Data Mining	2
MOC2096	Embedded Systems Design	3
MOC2097	Real Time Operating System	1
MOC2098	Introduction to Soft Computing	2
MOC2099	Cryptography and Network Security	3
MOC2100	Introduction to Internet of Things	3
MOC2101	Computer Networks and Internet Protocol	3
MOC2102	Introduction to Industry 4.0 and Industrial Internet of Things	3
MOC2103	Computer Architecture	3
MOC2104	Programming, Data Structures And Algorithms Using Python	2
MOC2105	Introduction to Machine Learning	3
MOC2106	Social Networks	3
MOC2107	Foundations to Computer Systems Design	3
MOC2108	The Joy of Computing using Python	3
MOC2109	Discrete Mathematics	3
MOC2110	An Introduction to Artificial Intelligence	3
MOC2111	User-centric Computing for Human-Computer Interaction	3
MOC2112	Cloud Computing and Distributed Systems	2
MOC2113	Machine Learning	2
MOC2114	Modern Application Development	3
MOC2115	An Introduction To Programming Through C++	3
MOC2116	Design and Pedagogy of the Introductory Programming Course	1
MOC2117	Quantitative Methods in Chemistry	3
MOC2118	Basics in Inorganic Chemistry	1
MOC2119	Ultrafast Laser Spectroscopy	3
MOC2120	Transition Metal Organometallics in Catalysis and Biology	3
MOC2121	Essentials of Biomolecules : Nucleic Acids and Peptides	3
MOC2122	Fundamentals of Spectroscopy	3
MOC2123	Advanced Chemical Thermodynamics and Kinetics	3
MOC2124	Biochemistry	3
MOC2125	Organometallic Chemistry	1
MOC2126	Chemical Applications of Symmetry and Group Theory	2
MOC2127	Basic Thermodynamics : Classical and Statistical Approaches	3
MOC2128	Medicinal Chemistry	3
MOC2129	Design, Technology and Innovation	2
MOC2130	Geographic Information System	3
MOC2131	Product Design and Innovation	1

MOC2132	Fundamentals of Automotive Systems	3
MOC2133	Electronics Equipment Integration and Prototype Building	2
MOC2134	High Power Multilevel Converters-Analysis, Design and Operational Issues	3
MOC2135	Fuzzy Sets, Logic and Systems and Applications	3
MOC2136	Transmission Lines and Electromagnetic Waves	3
MOC2137	Digital IC Design	3
MOC2138	Signals and Systems	3
MOC2139	Power Management Integrated Circuits	3
MOC2140	DC Power Transmission Systems	3
MOC2141	Microprocessors and Interfacing	3
MOC2142	Design and Simulation of Power Conversion using Open Source Tools	1
MOC2143	Integrated Circuits, MOSFETs, OP-Amps and their Applications	3
MOC2144	Electronic Systems for Cancer Diagnosis	3
MOC2145	Principles of Signals and Systems	3
MOC2146	Principles of Communication Systems - I	3
MOC2147	Principles of Digital Communication	3
MOC2148	Electric Vehicles - Part 1	1
MOC2149	Nonlinear Adaptive Control	1
MOC2150	Antennas	3
MOC2151	Multirate DSP	3
MOC2152	Control Engineering	3
MOC2153	Introduction to Photonics	3
MOC2154	Microwave Integrated Circuits	2
MOC2155	Analog IC Design	3
MOC2156	Analog Circuits	3
MOC2157	Advance Power Electronics and Control	2
MOC2158	CMOS Digital VLSI Design	2
MOC2159	Analog Circuits and Systems through SPICE Simulation	3
MOC2160	Discrete Time Signal Processing	2
MOC2161	Digital Electronic Circuits	3
MOC2162	Fundamentals of MIMO Wireless Communication	2
MOC2163	Spread Spectrum Communications and Jamming	3
MOC2164	Basic Building Blocks of Microwave Engineering & Design Principles of RF and Microwave Filters and Amplifiers	2
MOC2165	Evolution of Air Interface towards 5G	2
MOC2166	Architectural Design of Digital Integrated Circuits	3
MOC2167	Electrical Machines - II	3
MOC2168	Medical Image Analysis	1
MOC2169	Biomedical Signal Processing	3
MOC2170	Microprocessors And Microcontrollers	3
MOC2171	Recent Advances in Transmission Insulator	1
MOC2172	VLSI Signal Processing	2
MOC2173	Analog Electronic Circuits	3
MOC2174	Network Analysis	3
MOC2175	Optical Engineering	3
MOC2176	Mathematical Methods and Techniques in Signal Processing	3
MOC2177	A brief introduction of Micro " Sensors	1

MOC2178	Statistical Signal Processing	3
MOC2179	Nonlinear System Analysis	3
MOC2180	Ethics in Engineering Practice	2
MOC2181	Introduction to Research	2
MOC2182	Matlab Programming for Numerical Computation	2
MOC2183	Roadmap for Patent Creation	2
MOC2184	Entrepreneurship Essentials	3
MOC2185	Fuzzy Logic and Neural Networks	2
MOC2186	Microeconomics : Theory & Applications	3
MOC2187	Introduction to Environmental Economics	3
MOC2188	Energy Resources, Economics and Environment	3
MOC2189	Literary Criticism (From Plato to Leavis)	3
MOC2190	Twentieth Century Fiction	3
MOC2191	Effective Writing	1
MOC2192	Strategic Trade and Protectionism - Theories and Empirics	2
MOC2193	Introduction to Cultural Studies	3
MOC2194	Introduction to Basic Spoken Sanskrit	1
MOC2195	Speaking Effectively	2
MOC2196	Soft Skill Development	2
MOC2197	Intellectual Property	3
MOC2198	English Language for Competitive Exams	3
MOC2199	English Literature for competitive Exams	2
MOC2200	Language and Mind	2
MOC2201	The Nineteenth - Century English Novel	3
MOC2202	Introduction to World Literature	3
MOC2203	Patent Drafting for Beginners	1
MOC2204	Patent Law for Engineers and Scientists	3
MOC2205	Economic Growth & Development	2
MOC2206	Human Behaviour	2
MOC2207	Introduction to Modern Indian Political Thought	3
MOC2208	English Literature of the Romantic Period, 1798 - 1832	2
MOC2209	Literature, Culture and Media	3
MOC2210	Introduction to Brain & Behaviour	2
MOC2211	Modern Indian Writing in Translation	3
MOC2212	Introduction to Political Ideologies : Contexts, Ideas, and Practices	3
MOC2213	Indian Business History	2
MOC2214	German - II	3
MOC2215	German - I	3
MOC2216	Feminism : Concepts and Theories	3
MOC2217	An Introduction to Smooth Manifolds	3
MOC2218	Measure Theory	3
MOC2219	Basic Real Analysis	3
MOC2220	Probabilistic Methods in PDE	3
MOC2221	Graph Theory	2
MOC2222	Transform Calculus and its applications in Differential Equations	3
MOC2223	Integral and Vector Calculus	3
MOC2224	Basic Linear Algebra	2

MOC2225	Introduction to Rings And Fields	2
MOC2226	Numerical Methods : Finite Difference Approach	1
MOC2227	Numerical Linear Algebra	3
MOC2228	Ordinary and Partial Differential Equations and Applications	3
MOC2229	Advanced Engineering Mathematics	3
MOC2230	Mathematical Methods and its Applications	3
MOC2231	Multivariable Calculus	2
MOC2232	Chaotic Dynamical System	3
MOC2233	Engineering Mathematics II	3
MOC2234	Advanced Probability Theory	3
MOC2235	Statistical Inference	2
MOC2236	Introduction to Algebraic Geometry and Commutative Algebra	3
MOC2237	Linear Algebra	3
MOC2238	Introduction to Probability and Statistics	1
MOC2239	Descriptive Statistics with R Software	2
MOC2240	Engineering Mechanics - Statics and Dynamics	2
MOC2241	Experimental Stress Analysis	3
MOC2242	Robotics and Control : Theory and Practice	2
MOC2243	Computational Fluid Dynamics for Incompressible Flows	3
MOC2244	Experimental Methods in Fluid Mechanics	3
MOC2245	Foundations of Computational Materials Modelling	3
MOC2246	Acoustic Materials and Metamaterials	2
MOC2247	Power Plant Engineering	2
MOC2248	Applied Ergonomics	3
MOC2249	Product Design and Manufacturing	3
MOC2250	Manufacturing Process Technology I & II	3
MOC2251	Introduction To Mechanical Micro Machining	3
MOC2252	Non Traditional Abrasive Machining ProcessesUltrasonic, Abrasive Jet and Abrasive Water Jet Machining	1
MOC2253	Gear And Gear Unit Design : Theory And Practice	2
MOC2254	Conduction and Convection Heat Transfer	3
MOC2255	Laws of Thermodynamics	1
MOC2256	Kinematics of Mechanisms and Machines	2
MOC2257	Introduction To Fluid Mechanics	3
MOC2258	Fundamental of Welding Science and Technology	2
MOC2259	Introduction to Abrasive Machining and Finishing Processes	2
MOC2260	Automatic Control	2
MOC2261	Inspection and Quality Control in Manufacturing	1
MOC2262	Diffusion in Multicomponent Solids	3
MOC2263	Processing of Polymers and Polymer Composites	2
MOC2264	Operations Management	3
MOC2265	Convective Heat Transfer	1
MOC2266	Two phase flow and heat transfer	1
MOC2267	Steam and Gas Power Systems	2
MOC2268	Principles of Casting Technology	2
MOC2269	Financial Mathematics	3
MOC2270	Modelling and Simulation of Dynamic Systems	2

MOC2271	Fundamentals of combustion for propulsion	2
MOC2272	Industrial Automation And Control	3
MOC2273	Fundamentals of Nuclear Power Generation	3
MOC2274	Mechanics of Machining	2
MOC2275	IC Engines and Gas Turbines	3
MOC2276	Principles of Industrial Engineering	3
MOC2277	Computer Integrated Manufacturing	3
MOC2278	Machining Science	1
MOC2279	Introduction to Stochastic Processes	3
MOC2280	Introduction to System Dynamics Modeling	2
MOC2281	Management of New Products and Services	1
MOC2282	Integrated Marketing Management	2
MOC2283	Simulation of Business Systems: An Applied Approach	2
MOC2284	Production and Operation Management	3
MOC2285	Services Marketing : Integrating People, Technology, Strategy	2
MOC2286	Managerial Skills for Interpersonal Dynamics	3
MOC2287	Financial Institutions and Markets	3
MOC2288	Business Analytics For Management Decision	3
MOC2289	Services Marketing : A Practical Approach	1
MOC2290	Sales and Distribution Management	2
MOC2291	Principles of Human Resource Management	2
MOC2292	Managing change in organizations	2
MOC2293	Management of Inventory Systems	3
MOC2294	Quality Design And Control	3
MOC2295	Foundation Course in Managerial Economics	2
MOC2296	Engineering Econometrics	3
MOC2297	Financial Statement Analysis and Reporting	3
MOC2298	Business Statistics	3
MOC2299	Global Marketing Management	2
MOC2300	Marketing Research and Analysis - II	3
MOC2301	Infrastructure Planning and Managements	3
MOC2302	Modelling and Analytics for Supply Chain Management	3
MOC2303	Marketing Analytics	3
MOC2304	Financial Management For Managers	3
MOC2305	Management of Commercial Banking	3
MOC2306	Behavioral and Personal Finance	2
MOC2307	Total Quality Management - 1	2
MOC2308	Entrepreneurship	3
MOC2309	Modeling of Tundish Steelmaking Process in Continuous Casting	2
MOC2310	Fundamentals of Electronic Materials and Devices	2
MOC2311	Introduction to Materials Science and Engineering	3
MOC2312	Corrosion - Part I	2
MOC2313	Solar Photovoltaics: Principles, Technologies and Materials	2
MOC2314	Welding Processes	3
MOC2315	Theory and Practice of Non Destructive Testing	2
MOC2316	Steel Quality: Role of Secondary Refining and Continuous Casting	3
MOC2317	Materials Science and Engineering	2

MOC2318	Surface Engineering of Nanomaterials	2
MOC2319	Dealing with Materials Data: Collection, Analysis and Interpretation	3
MOC2320	Friction and Wear of Materials: Principle and Case Studies	2
MOC2321	Material Characterization	3
MOC2322	Offshore Structures Under Special Environmental Loads Including Fire Resistance	3
MOC2323	Physics of Biological Systems	3
MOC2324	Group Theory methods in Physics	3
MOC2325	Experimental Physics - II	3
MOC2326	Quantum Mechanics I	3
MOC2327	A Brief Course on Superconductivity	1
MOC2328	Fiber Optics	2
MOC2329	Electromagnetism	3
MOC2330	Experimental Physics III	3
MOC2331	Electronic Theory of Solids	3
MOC2332	Introduction to Atmospheric and Space Sciences	3
MOC2333	Optical Sensors	1
MOC2334	Evaluation of Textiles Materials	3
MOC2335	Advanced Textile Printing Technology	2
MOC2336	Textured Yarn Technology	3
MOC2337	Theory of Yarn Structure	3
MOC2338	Testing of Functional and Technical Textiles	2
MOC2339	Applied Optimization for Wireless, Machine Learning, Big Data	3
MOC2340	Deep Learning for Computer Vision	3
MOC2341	Deep Learning for Visual Computing	3
MOC2342	Principles of Compiler Design	3
MOC2343	International Business	3
MOC2344	Learning Analytics Tools	3
MOC2345	Advanced IoT Applications	2
MOC2346	Algorithms for Big Data	2
MOC2347	Decision Making Using Financial Accounting	2
MOC2348	Introduction on Intellectual Property to Engineers and Technologists	2
MOC2349	Introduction to Quantum Computing: Quantum Algorithms and Qiskit	1