

NORTHERN TECHNICAL UNIVERSITY — MOSUL TECHNICAL INSTITUTE

Department of Electronic & Communication Techniques — First Year Course Description

1. Human Rights and Democracy (Course Code: NTU100) — Total: 30 Hours

WEEK	UNIT / TOPIC DESCRIPTION	TEACHING METHOD	ASSESSMENT
Week 1	Human rights definition, objectives, rights in ancient civilizations and heavenly laws.	Theoretical	Tests & Reports
Week 2	Human Rights in contemporary/modern history and regional charters (European, American, African, Arab).	Theoretical	Tests & Reports
Week 3	NGOs and human rights (ICRC, Amnesty International, Human Rights Watch, National NGOs).	Theoretical	Tests & Reports
Week 4	Human rights in Iraqi constitutions & public freedoms in Universal Declaration and charters.	Theoretical	Tests & Reports
Week 5	Economic, social, cultural, civil and political human rights, modern solidarity & environmental rights.	Theoretical	Tests & Reports
Week 6	Guarantees of respecting/protecting rights at national (constitution, rule of law) & international levels (UN, regional orgs).	Theoretical	Tests & Reports
Week 7	General theory of freedoms: origin of rights, legislator position, and term of public freedoms.	Theoretical	Tests & Reports
Week 8	Organizing public freedoms based on equality: historical evolution, gender equality, belief/race equality.	Theoretical	Tests & Reports
Week 9	Freedom of learning, press, assembly, association, work, and right of ownership.	Theoretical	Tests & Reports
Week 10	Freedom of trade/industry, security, freedom of movement, and women's freedom.	Theoretical	Tests & Reports
Week 11	Scientific and technical progress impact on public freedoms & the future of public freedoms.	Theoretical	Tests & Reports
Week 12	The crime of genocide in international and national legislation.	Theoretical	Tests & Reports
Week 13	Democracy: characteristics, principles, and types.	Theoretical	Tests & Reports
Week 14	Elections: definition, electoral systems, and types.	Theoretical	Tests & Reports
Week 15	Contemporary political systems and comprehensive evaluation.	Theoretical	Tests & Reports

2. Arabic Language (Course Code: NTU103) — Total: 30 Hours

WEEK	TOPIC TITLE & CONTENT	TEACHING METHOD	ASSESSMENT
Week 1	Introduction to common linguistic errors; rules of Taa Al-Marbouta and Open Taa.	Discussion & Lecture	Oral Test
Week 2	Rules for writing extended and shortened Alif; Solar and Lunar letters differentiation.	Discussion & Lecture	Oral Test
Week 3	Phonetic and spelling differentiation between Dhad (ض) and Zaa (ظ).	Discussion & Lecture	Oral Test
Week 4	Hamza writing rules in initial, middle, and final positions.	Discussion & Lecture	Oral Test
Week 5	Punctuation marks and their proper application in academic writing.	Discussion & Lecture	Oral Test
Week 6	Grammar fundamentals: Nouns, Verbs, Particles, and verb classifications.	Discussion & Lecture	Oral Test
Week 7	Object types (Maf'ool) and grammatical structures.	Discussion & Lecture	Oral Test
Week 8	Number rules (Grammatical agreement and numeric writing rules).	Discussion & Lecture	Oral Test

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Arabic Language (Continued)

WEEK	TOPIC TITLE & CONTENT	TEACHING METHOD	ASSESSMENT
Week 9-10	Applications of common linguistic errors and editorial corrections.	Discussion & Lecture	Oral Test
Week 11	Distinguishing Noon and Tanween; meanings of prepositions.	Discussion & Lecture	Oral Test
Week 12-13	Formal aspects and stylistic conventions of official administrative discourse.	Discussion & Lecture	Oral Test
Week 14-15	Language of administrative correspondence and official documentation samples.	Discussion & Lecture	Oral Test

3. Computer Fundamentals I (Course Code: NTU102) — Total: 30 Hours

WEEK	UNIT / TOPIC TITLE	TEACHING METHOD	ASSESSMENT
Week 1-2	Introduction to Computer System, Hardware (CPU, Input/Output, RAM/ROM), Storage Devices & Performance Factors.	Practical + Theory	Tests & Discussion
Week 3	Software Types: Operating Systems, Programming Languages, Application Software & OS Desktop Interface.	Practical + Theory	Tests & Discussion
Week 4	Control Panel settings, Screen Saver, Colors, Time/Date, Mouse settings & Program Installation.	Practical + Theory	Tests & Discussion
Week 5-6	Window Controls, Start Menu customization, stopping unwanted applications & basic system properties.	Practical + Theory	Tests & Discussion
Week 7	Windows Explorer navigation, My Computer parts, Recycle Bin management.	Practical + Theory	Tests & Discussion
Week 8-9	File and Folder Management: Creating, renaming, copying, moving, searching, and creating shortcuts.	Practical + Theory	Tests & Discussion
Week 10-11	System Accessories: Calculator, Notepad, WordPad usage and text editing.	Practical + Theory	Tests & Discussion
Week 12-13	Paint Application: Drawing tools, color selection, background setup & Media Player operation.	Practical + Theory	Tests & Discussion
Week 14-15	Computer Security: Viruses, infection symptoms, antivirus protection, cybercrime & hacking concepts.	Practical + Theory	Tests & Discussion

4. Physical Education / Sport — Total: 30 Hours

WEEK	UNIT / TOPIC TITLE	TEACHING METHOD	ASSESSMENT
Week 1	Sport: Definition, importance, and health benefits.	Theory & Practical	Tests & Reports
Week 2-3	Human body movement mechanism and common athletic injuries prevention.	Theory & Practical	Tests & Reports
Week 4-5	Basketball basic skills and international basketball regulations/laws.	Theory & Practical	Tests & Reports
Week 6-7	Table Tennis skills & Volleyball rules and game fundamentals.	Theory & Practical	Tests & Reports
Week 8-10	Swimming sports, Tennis basic skills, and Handball rules & techniques.	Theory & Practical	Tests & Reports
Week 11-12	International Handball law and Track & Field arena sports overview.	Theory & Practical	Tests & Reports
Week 13-15	Football basic skills, sports competition management, and athletic legislation.	Theory & Practical	Tests & Reports

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5. DC Electrical Circuits — Total: 60 Hours (Theoretical & Practical)

WEEK	THEORETICAL & PRACTICAL SYLLABUS	TEACHING METHOD	ASSESSMENT
Week 1	Ohm's Law: Calculation of voltage, current, and power in electrical circuits.	Theory + Lab	Exams & Reports
Week 2	Series, Parallel, and Series-Parallel (Mixed) resistance connections and equivalent values.	Theory + Lab	Exams & Reports
Week 3	Star-Delta ($Y-\Delta$) and Delta-Star transformations and equivalent resistance calculation.	Theory + Lab	Exams & Reports
Week 4	Kirchhoff's Voltage Law (KVL) and Kirchhoff's Current Law (KCL) circuit analysis.	Theory + Lab	Exams & Reports
Week 5-6	Mesh Current Analysis method for complex electrical network solutions.	Theory + Lab	Exams & Reports
Week 7-8	Nodal Voltage Analysis method for electrical circuits.	Theory + Lab	Exams & Reports
Week 9-10	Superposition Theorem application in multi-source circuits.	Theory + Lab	Exams & Reports
Week 11-12	Thevenin's Theorem and Norton's Theorem equivalent circuit modeling.	Theory + Lab	Exams & Reports
Week 13	Source Transformations (Voltage source to Current source and vice versa).	Theory + Lab	Exams & Reports
Week 14	Maximum Power Transfer Theorem derivation and experimental validation.	Theory + Lab	Exams & Reports
Week 15	Capacitors and Inductors in DC transient states and final review.	Theory + Lab	Final Exam