



DISCIPLIN CARD

1. Information regarding the program

1.1.	UNIVERSITY OF MEDICINE AND PHARMACY “CAROL DAVILA”	
1.2.	FACULTY	MEDICINE
	DEPARTAMENT	3 – NEPHROLOGY, UROLOGY, TRANSPLANT IMMUNOLOGY, DERMATOLOGY, ALERGOLOGY
1.3.	DISCIPLIN:	UROLOGY
1.4.	STUDY DOMAIN :	HEALTHCARE – Regulated according to the European Union
1.5.	LEVEL OF STUDY:	LICENCE
1.6.	STUDY PROGRAM	MEDICIN

2. Information regarding disciplin

2.1.	Discipline name : UROLOGY						
2.2.	Discipline location: ..						
2.3.	Heads of course activity:						
2.4.	Head of seminary activity:						
2.5. Study	V	2.6. Semester	IX	2.7.	Write and	2.7.	Compulsor

year			X	Evaluation type	practical exam	Discipline regimen	y
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3. Estimated total time (hours/semester of teaching activity)

Number of weekly hours	25	Of which : theoretical course	10	Clinical practice	15
Total hours of teaching activity plan	65ore	Of which : theoretical course	26 ore	Clinical practice	39 ore
Distribution of allocated time	3 weeks		5 hours/day		
Study after textbook, course notes, bibliography and notes.					
Supplementary documentation in our library, on specialty related electronic platforms and on the field.					
Preparation of seminary/laboratories, homework, essays and portfolios.					
Tutorials					
Examination					
Other activities					
Total number of individual study hours					
Total number or hours per semester					
Number of allocated credits			4		

4. Preconditions (where they may apply)

4.1. regarding curriculum	Basic knowledge of anatomy and physiology of urinary tract.
4.2. regarding competence	Patient general clinical examination, general techniques and surgical manuvres.

5. Conditions (where they may apply)

5.1. regarding course proceedings	<ul style="list-style-type: none"> Course unfolding between 8:30 – 10:30 hours in buildings amphitheatre or in course room of the Urology Clinic. Presented material is presented in interactive form, in power point format, using a video projection device. The students are encouraged to actively participate in the course, by asking questions, presentation and discussions regarding specific semiology imaging of the urinary tract.
5.2. regarding clinical practice proceedings	<ul style="list-style-type: none"> Clinical practice unfolds between 11:00 – 14:00. In the first part of this time interval one of the mentioned faculty will present a micro-course with the mentioned themes, in power point format and also video content. In the second part of this time interval, each group is taken by its assigned assistant and well undergo clinical training either on the urology ward, in the operating rooms or in the emergency care unit.

6. Specific accumulated abilities

Professional abilities (expressed by knowledge and abilities)	<ul style="list-style-type: none"> Description of concepts, theories and fundamentals of disease development, signs and symptoms specific to disease, so that a clinical urologic diagnosis can be reached.
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	<ul style="list-style-type: none"> • Descriptions of drugs mechanisms of action, of indication and counter – indications and of adverse effects of therapeutic resources enrolled in urologic care. Identification and application of first line care in urologic emergencies. • Explanation of preventive and protective measures that affect the urologist. • Description of concepts, theories and fundamental notions that influence and/or determine the healthcare state of a population group and application of mentioned notions.
Transverse abilities (de rol, de dezvoltare profesională, personale)	<ul style="list-style-type: none"> • Identification of objectives, of available resources, of conditions for finalization of objectives, work pathways, estimation of allocated time, for the different urological pathology. • Identification of the roles and responsibilities of a multi - disciplinary team and application of relational and work techniques to increase team efficacy and patient care • Efficient use of informational and communication resources for professional formation (internet portals, specialty software applications, databases, webinars, on-line courses).

7. Discipin objectives (argued by specific abilities acquired)

7.1. General objectives	<ul style="list-style-type: none"> • Objectives of Urology discipline are to introduce, to the medical student, basic notions of urologic pathology, principles of diagnosis and treatment of these pathologies. • Promoting ethics in urological care.
7.2. Specific objectives	<ul style="list-style-type: none"> • Conceiving and application of a therapeutic plan for a specific diagnosed urologic condition. • Establishing and consolidating a good and efficient doctor-patient relationship.

8. Content

8.1. Course	Teaching technique	Observation
See Course Annex	Speaking. Courses are being held in amphitheatre and specially fitted rooms for this specific purpose. All courses have electronic support and are updated in accordance with the university program. The disciplin has a library and the possibility for online access of specialty information.	
8.2. Clinical practice	Teaching technique	Observation
See Clinical practice Annex	Presentation, demonstration, exemplification.	

9. Corroboration of discipline content with expectations of epistemic community representatives, professional associations and representatives employers in the field.

<ul style="list-style-type: none"> • The discipline contents is in accordance with teaching activities from other national university centres and also

international ones.

- We aim to create professional judgement, deductive and ethic decision making.
- Urology discipline objectives are to introduce medical students to urologic pathology in general, with other organs pathology that has urologic implications and familiarize them with the diagnostic and treatment principles of acute and chronic urologic pathologies.
- Students that undergo the urology discipline curriculum will obtain the technique for clinical examination of urogenital apparatus, urethro-vesical catheterisation, suprapubic cystostomy, percutaneous nephrostomy, urogenital ultrasound, diagnostic and emergency care of urologic acute pathologies: renal colic, anuria, haematuria, urinary retention. They will also gain the ability to orient indication of surgical treatment towards open surgery, endoscopic, laparoscopic or ESWL.

10.Evaluation

Type of activity	8.1. Evaluation criteria	8.2. Evaluation methods	8.3. Percent of final grade
8.4. Course	Knowledge of theoretical notions thought	Written examination	70%
8.5.Seminary/ laboratory	Knowledge of theoretical notions thought	Interview + practical exam	30%
	Practical abilities	Evaluation	
	Acquisition of practical and theoretical aspects thought in the course and seminary	Evaluation	
Minimum performance standards			50%
Practical examination:			
<ul style="list-style-type: none"> • Minimum passing grade is 5. Final grade is based on the mentioned evaluation criteria being weighted: 30%, 70% • Gradeing on written examination is done in conformity with the bar of the Urology chair. 			

Course Annex

8.1. Course	Teaching technique	Observations
1. Urologic semiology (pain, haematuria, turbid urine) Pain Turbid urine Haematuria	Oral and multimedia presentation	1 x 2 h
2. Urologic semiology (polachiuria, disuria, incomplete and complete urinary retention) Polachiuria Decreased micturition Dysuria Incomplete urinary retention Complete urinary retention Anuria Chiluria Pneumaturia Urinary Incontinence Fever	Oral and multimedia presentation	1 x 2 h
3. Non-specific Urinary Tract Infections Definition, classification Aetiology Pathogenesis Laboratory workup Clinical syndromes: Acute pyelonephritis Chronic pyelonephritis Cystitis Prostatitis Urethritis. Periurethritis. Urosepsis Renal Infections Lower urinary tract infections Prostate infections Infections of scrotal content Antimicrobial and antibiotic usage Recommendations for antibiotic prophylaxis Antimicrobial agents	Oral and multimedia presentation	1 x 2 h
4. Urogenital Tuberculosis Urogenital Tuberculosis Renal tuberculosis Ureteral tuberculosis Bladder tuberculosis Genital tuberculosis Prostatic tuberculosis Tuberculosis of penis and urethra Diagnostic Treatment Urinary Candidiasis Actinomycosis Schistosomiasis Filariasis Echinococosis	Oral and multimedia presentation	1 x 2 h
5. Urinary tract lithiasis Epidemiology Aetiopathogenesis Clinical manifestations of urinary lithiasis Diagnostic Treatment	Oral and multimedia presentation	1 x 2 h

<p>6. Parenchymal Renal Tumours</p> <p>I. Parenchymal Renal Tumours in the adult</p> <ul style="list-style-type: none"> Classification Incidence Aetiopathogenesis Pathology Natural evolution Clinical manifestations Laboratory workup Imaging Differential diagnosis Staging Treatment Follow-up <p>II. Wilms Tumour</p>	<p>Oral and multimedia presentation</p>	<p>1 x 2 h</p>
<p>7. Urothelial carcinoma – upper urinary tract urothelial carcinoma</p> <ul style="list-style-type: none"> Incidence Etiology Pathological anatomy Prognosis Clinical manifestations Laboratory investigations Imaging Differential diagnosis Treatment Surveillance 	<p>Prezentare orală și expunere multimedia Oral presentation and multimedia exposure</p>	<p>1 x 2 h</p>
<p>8. Urothelial carcinoma – Bladder cancer</p> <ul style="list-style-type: none"> Epidemiology Etiology and risk factors Pathological anatomy of the bladder tumors Origins and ways of dissemination Bladder cancer diagnosis Differential diagnosis of bladder cancer Early detection- bladder cancer screening Bladder cancer staging Natural evolution Bladder cancer treatment 	<p>Prezentare orală și expunere multimedia Oral presentation and multimedia exposure</p>	<p>1 x 2 h</p>
<p>9. Benign prostatic hyperplasia</p> <ul style="list-style-type: none"> Definition, incidence, etiology Structural anatomy Pathological anatomy Consequences of BPH on the urinary system Pathophysiology of BPH Clinical manifestations Paraclinic and imaging investigations Treatment 	<p>Prezentare orală și expunere multimedia Oral presentation and multimedia exposure</p>	<p>1 x 2 h</p>

<p>10. Prostate cancer</p> <ul style="list-style-type: none"> Risk factors Pathological anatomy Classification Clinical manifestations Diagnosis and staging Differential diagnosis Treatment 	<p>Prezentare orală și expunere multimedia Oral presentation and multimedia exposure</p>	<p>1 x 2 h</p>
<p>11. Testicular and intrascrotal tumors</p> <ul style="list-style-type: none"> I. Testicular tumors <ul style="list-style-type: none"> Epidemiology Etiology Pathogenesis Clinic Diagnostic Staging Therapeutic protocol Supervision protocol II. Varicoceles <ul style="list-style-type: none"> Definition Etiopathogeny Clinic Diagnosis Treatment III. Hydrocele <ul style="list-style-type: none"> Definition Etiopathogeny Clinic Diagnosis Treatment 	<p>Prezentare orală și expunere multimedia Oral presentation and multimedia exposure</p>	<p>1 x 2 h</p>
<p>12. The trauma of male urinary and genital apparatus</p> <ul style="list-style-type: none"> Renal trauma <ul style="list-style-type: none"> Overview Injury mechanism Classification of trauma History and clinical examination Laboratory data Imaging Treatment Complications Surveillance Assessment and / or treatment algorithm Ureteral trauma Bladder trauma Urethral trauma Genital trauma 	<p>Oral presentation and multimedia exposure</p>	<p>1 x 2 h</p>

<p>13. Malformations of the urogenital apparatus</p> <ul style="list-style-type: none"> Embryology of the uro-genital apparatus Kidney malformations Malformations of the ureter and pielo-ureteral junction Bladder malformations Malformations of uraca Malformations of the urethra Penile malformations Malformations of the scrotum and its contents Testicular malformations 	<p>Oral presentation and multimedia exposure</p>	<p>1 x 2 h</p>
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Bibliography

1. "UROLOGY - COURSE FOR STUDENTS" - SINESCU I.

"Carol Davila" University Publishing House, Bucharest, 259 pages, 2005. ISBN: 973-708-078-5

2. "UROLOGY - PRACTICAL WORKS FOR STUDENTS" - SINESCU I.

"Carol Davila" University Publishing House, Bucharest, 161 pages, 2005. ISBN: 973-708-103-X

3. "UROLOGY - COURSE FOR STUDENTS"

"Carol Davila" University Publishing House, Bucharest, 2013.

Annex of the CLINICAL STAGE

8.2. Seminar / laboratory	Teaching methods	Observations
1. Presentations of patients with urological signs, symptoms and syndromes		
2. Urological and radiological clinical investigations Urological Patient Assessment Protocol Urological objective exam Physical examination of the uro-genital apparatus Clinical exploration of the kidneys and retroperitoneal space Bladder Examination Male Genital Examination Macroscopic urinalysis	Presentation, demonstration, exemplification	3 h
3. Therapeutic aspects (for renal colic, micturition disorder, complete urinary retention, hematuria) Colica renală Nefralgia Durerea hipogastrică Durerea pelvi-perineală Durerea funiculo-scrotală-testiculară Durerea peniană Durerea uretrală Tulburările micționale Polachiuria Poliuria Micțiunea rară Micțiunea dureroasă Micțiunea dificilă – Disuria Retenția incompletă de urină Retenția completă de urină Anuria Incontinența urinară Chiluria Pneumaturia Urina turbure Piuria Hematuria Kidney colic Nefralgia Hypogastric pain Pelvic-perineal pain Spermatic cord-scrotal-testicular pain Penile pain Urethral pain Micturition disorders Pollakiuria Polyuria Infrequent micturition Painful micturition Difficult micturition - Dysuria Incomplete urinary retention Complete urinary retention Anuria Urinary incontinence Chyluria Pneumaturia Cloudy urine Pyuria Hematuria	Presentation, demonstration, exemplification	3 h
4. Digital rectal examination (normal prostate, adenoma, adenocarcinoma) Steps Palpation of the anal canal	Presentation, demonstration, exemplification	3 h

<ul style="list-style-type: none"> Palpation of the Cowper glands Palpation of the perineal urethra Examination of the rectal ampoule Prostate Examination 		
<p>5. Urethrovessical catheterization</p> <ul style="list-style-type: none"> Urethrovessical catheterization Minimal cystostomy <p>Suprapubic bladder puncture</p> <ul style="list-style-type: none"> Recoltarea prin puncție suprapubiană Harvesting by suprapubic puncture 	Presentation, demonstration, exemplification	3 h
<p>6. Harvesting urine for urine culture (for woman and man)</p> <ul style="list-style-type: none"> Harvesting technique Harvesting by urethral catheterization Bladder catheterization for women <p>Biochemical laboratory exams, technology, urinalys, urinary pH, urinary density</p> <ul style="list-style-type: none"> Urine findings with reactive bands (dipstick) Urinalysis examination Examenul microscopic al urinii (sedimentul urinar) Urinary biochemistry Blood tests for the determination of the renal function <p>Laborator bacteriologic (urocultură, B.K., secreție uretrală, frotiu vaginal)</p> <ul style="list-style-type: none"> Laboratorul bacteriologic <ul style="list-style-type: none"> Testele chimice rapide Sistemul cu bioluminescență Urocultura Frotiul vaginal <ul style="list-style-type: none"> Examenul secreției uretrale <p>Bacteriological laboratory (uroculture, B.K., urethral secretion, vaginal smear)</p> <ul style="list-style-type: none"> The bacteriological laboratory <ul style="list-style-type: none"> Fast chemical tests The bioluminescent system Urine culture Vaginal smear <ul style="list-style-type: none"> Urethral secretion exam 	Presentation, demonstration, exemplification	3 h
<p>7. Isotopic exploration (nephroscintigram, isotopic nephrogram, bone scintigram)</p> <ul style="list-style-type: none"> Static renal scintigraphy <ul style="list-style-type: none"> Horizontal or isostennic type nephrogram Nephrogram in renal artery stenosis Nephrogram in obstructive uropathy <p>Radiology of the urinary system (KUB, IVU, cystography, urethrocytography, arteriography, venography, lymphography, etc.)</p> <ul style="list-style-type: none"> Simple reno-bladder radiography (kidney ureters bladder) Imaging investigations using iodine based contrast agents <ul style="list-style-type: none"> Iodized contrast agents Intravenous urography Radiological retrograde investigations of the urinary system <ul style="list-style-type: none"> Retrograde urethrography Retrograde cystography Retrograde ureteropelography and retrograde pyelography Standard arteriography 	Presentation, demonstration, exemplification	3 h
<p>8. Cystoscopy and urethrocytscopy (urethra + normal and pathological bladder)</p>	Presentation, demonstration, exemplification	3 h
<p>9. Ultrasound of the urinary system</p> <ul style="list-style-type: none"> Kidney and ureters ultrasound Ultrasound examination of the adrenal glands Ultrasound of retroperitoneal space Lower urinary tract ultrasound examination Interventional ultrasound <p>Computed tomography of the urinary system and MRI</p> <ul style="list-style-type: none"> Computed tomography <ul style="list-style-type: none"> Indications Preparing for the TC exam 	Presentation, demonstration, exemplification	3 h

<p>Operating principle Running the exam The advantages of the CT exam Risks of the CT exam Who interprets the result Limits of CT examination of the abdomen</p> <p>Magnetic resonance imaging Definition. Operating principle MRI investigation Indications Benefits Risks Benefits Disadvantages Contraindications</p>		
<p>10. Elemental notions of supravescical endourology (nephroscope, ureteroscope, percutaneous nephrostomy) Elementary notions of ESWL and Laser in Urology</p>	<p>Presentation, demonstration, exemplification</p>	<p>1 h</p>
<p>11. Urodynamics</p> <p>Symptoms of the lower urinary tract Signs suggestive of inferior urinary tract dysfunction Pathological condition and urodynamic observation Urodynamic techniques Fill cystometry Flow pressure studies Free flow rate Urethral Profilometry Sphincter electromyography Ambulatory urodynamic exploration Practical execution of the urodynamic exam Urodynamic syndromes</p>	<p>Presentation, demonstration, exemplification</p>	<p>1 h</p>
<p>12. Andrology notions</p>	<p>Presentation, demonstration, exemplification</p>	<p>1 h 3 x 0,2 h</p>
<p>13. FILME MEDICALE: Cateterism uretro-vezical Puncția vezicală suprapubiană Nefrostomia percutanată 13. MEDICAL FILMS: Urethral and bladder catheterization Suprapubic bladder puncture Percutaneous Nephrostomy</p>	<p>Presentation, demonstration, exemplification</p>	
<p>Bibliografie</p> <ol style="list-style-type: none"> 1. „UROLOGIE – CURS PENTRU STUDENȚI” - SINESCU I. Editura Universitară „Carol Davila”, București, 259 pagini, 2005. ISBN: 973-708-078-5 2. „UROLOGIE – LUCRĂRI PRACTICE PENTRU STUDENȚI” - SINESCU I. Editura Universitară „Carol Davila”, București, 161 pagini, 2005. ISBN: 973-708-103-X 3. „UROLOGIE – CURS PENTRU STUDENȚI” Editura Universitară „Carol Davila”, București, 2013. Bibliography 1. "UROLOGY - COURSE FOR STUDENTS" - SINESCU I. "Carol Davila" University Publishing House, Bucharest, 259 pages, 2005. ISBN: 973-708-078-5 2. "UROLOGY - PRACTICAL WORKS FOR STUDENTS" - SINESCU I. "Carol Davila" University Publishing House, Bucharest, 161 pages, 2005. ISBN: 973-708-103-X 3. "UROLOGY - COURSE FOR STUDENTS" "Carol Davila" University Publishing House, Bucharest, 2013. 		