Analytical program was discussed and approved on __________ 2011
at the Council of Stomatological Faculty
Dean of Stomatological Faculty,
Professor, Dr. ________ Ion Lupan

Analytical program was discussed and approved on __________ 2011
at the meeting of “General Surgery Course”
The chief of the course, Professor, Dr. Alin Bour

CURRICULUM

The course name – General Surgery
Course code –
Type of the course – obligatory object
Total numbers of hours - 126,
   Included lessons - 31 hours , practical hours – 95
Numbers of allocated credite - 4
The teachers name:

Professor.  
Head of Chair of Surgery Course professor, Alin Bour
associate professor N.Curlat
associate professor V. Botoșanu
tutor of chair Iu. Bazeliuc –english group
tutor of chair L. Cazacu

Chişinău 2011

The General Surgery study goal.
Study and formation of the general notion of surgery (asepsis and antisepsis, bleeding and blood transfusion, local anesthesia, surgical infection, the particularity of fizical and instrumental examination of surgical patients, surgical operation.)
The study of etiopathogenesis, clinical picture and treatment of different surgical disease; formation of the ability of clinical way of thinking and practical skills that will be useful for students in the future activity as a doctor.
The study objective at General Surgery Course:

**Learning and understanding level:**
- To know the etiology and pathogenesis of the basic surgical illness.
- To understand the correlation between etiology, pathogenesis and clinical pictures of the concrete surgical illness.
- To be able to do the differential diagnosis of the main spreading surgical illness.
- To know the main instrumental and laboratory methods of surgical disease.
- To know the main principle of the treatment of the most spreading surgical illness.

**Application levels:**
- To be able to establish emergency surgical disease diagnosis.
- To be able to use the instrumental and laboratory results for clinical diagnosis settle down.
- To solve the clinical situation problems by versatile and critical using of the learning information.
- To be able for application the course-effect principle.
- Be empowered to argue their own opinion and accept diversity in clinical manifestations of surgical disease.

**Integration levels:**
- To appreciate the importance of studying surgical disease in the context of the discipline of Medicine.
- Creatively address issues of clinical medicine.
- To be able for flexible interpretation of the clinical medicine problems.
- To find the interconnection between General Surgery and another basic medical sciences.
- To be able for implementation and integration of the knowledge from General Surgery in dentist practice and possess the skills to implement and integrate knowledge acquired in medical practice.
- To be ready for reality evaluations and self-assess knowledge in this area of activity.
- To be able for assimilation of the new achievement in clinical object.

**Previous conventions:**
Surgery it is a basic clinical object, the study of whom in the university give the opportunity for future stomatologist to have an important information about local anestesia. Surgery give the opportunity for making of the conception about asepsis and antisepsis, surgical infections, bleeding and haemostasis; to be formed the ability of the clinical and instrumental examination of the surgical pacient and making of the clinical way of thinking.

**Lessons and practical classes:**
Thematic plan for lessons and practical classes for General Surgery course, II year of study, Stomatological Faculty, State Medical and Pharmaceutical University „ Nicolae Testemitanu”

<table>
<thead>
<tr>
<th>Nr.</th>
<th>The name of the lessons and practical classes</th>
<th>Number of hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Total</td>
</tr>
<tr>
<td>1</td>
<td>Eticy and medical deontology. Organization of the surgical service. Asepsis and antisepsis.</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>Local anesthesiia. Methods of local anestesia. Local anesthetic drugs.Indications. Contraindications. Advantages and disadvantages.</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>Hemorrhage. Definition. Etiology, classification, clinical pictures in external hemorrhage, hemoperitoneum, hemotorax, hemopericardium, gastrointestinal bleeding.</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>The blood groups, blood group history. Aglutinin and aglutinogen. Determination of blood groups and rezeus factor Errors in blood groups determination (pan agglutination and pseudo agglutination).</td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>Operation. Definition, classification. Patient preparing for surgical treatment. Early and late postoperative complications.</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>Generalized infection. Sepsis: definition, classification, clinical manifestations, diagnosis, complications and treatment.</td>
<td>4</td>
</tr>
<tr>
<td>8</td>
<td>Furuncle, carbuncle, abscess, limphadenitis, hidradenitis, erysipelas, phlegmon, mastitis. Ethiopathogenesis, clinical manifestation, complications and treatment.</td>
<td>4</td>
</tr>
<tr>
<td>9</td>
<td>Panaris, hand phlegmon. Ethiopathogenesis, clinical manifestation, complications and treatment.</td>
<td>4</td>
</tr>
<tr>
<td>10</td>
<td>Osteomyelitis. Definition. Acute hematogenic osteomyelitis: classification, ethiopathogenesis, clinical manifestation, complications and treatment.</td>
<td>4</td>
</tr>
<tr>
<td>11</td>
<td>Necrosis, gangrene, a fistula, un ulcer.</td>
<td>2</td>
</tr>
<tr>
<td>13</td>
<td>Wounds: definition, classification. Semiology of wounds: local and general symptoms. Early and late complications of wounds, first aid, primary surgical treatment.</td>
<td>4</td>
</tr>
<tr>
<td>14</td>
<td>Anaerobic infections. Clostridian and non-clostridian. Ethiopathogenesis, clinical manifestation, diagnosis and treatment.</td>
<td>3</td>
</tr>
<tr>
<td>15</td>
<td>Burns and frostbites, classification, ethiopathogenesis, clinical manifestation, complications and treatment.</td>
<td>2</td>
</tr>
<tr>
<td>16</td>
<td>Surgical infection. Ethiopathogenesis. Classification. Local and general sign of the inflammatory processes. Principle of local and general treatment in surgical non-specific infection. Antibiotherapy in</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nr.</th>
<th>The name of the lessons and practical clasis</th>
<th>Numărul de ore</th>
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<td></td>
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<td>Numărul de ore</td>
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<tr>
<td></td>
<td></td>
<td>Total</td>
</tr>
<tr>
<td>3</td>
<td>Peritonitis. Definition. Etiopathogenesis. Classification. Clinical picture.</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>Peritonitis. Diagnosis and treatment of peritonitis. Local peritonitis</td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td>Acute pancreatitis. Etiopathogenesis. Classification. Clinical picture. Treatment.</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>Tromboemboly. Etiopathogenesis. Clinical picture. Diagnosis. Treatment.</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>Closed and opened trauma of the abdomen. Mechanism of trauma, classification. Clinical picture. Diagnosis. Treatment.</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>Examination of the patient with surgical pathology</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>Complications of acute appendicitis (infiltrate, abscess, pilephlebitis, local and general peritonitis). Patogenesis. Clinical picture. Diagnosis. Treatment.</td>
<td>3</td>
</tr>
<tr>
<td>11</td>
<td>Intestinal occlusion. Classification. Etiology and patogenesis Diagnosis. Clinical picture of the intestinal occlusion depending from localization and etiological factors.</td>
<td>3</td>
</tr>
<tr>
<td>12</td>
<td>Intestinal occlusion: metabolice disorders and its role in the evolution and prognosis, Differential</td>
<td>3</td>
</tr>
</tbody>
</table>

Thematic plan for lessons and practical classes for General Surgery course, III year of study, Stomatological Faculty, State Medical and Pharmaceutical University „ Nicolae Testemitanu”
<table>
<thead>
<tr>
<th>Nr.</th>
<th>The name of the lessons and practical class</th>
<th>Numărul de ore</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Total</td>
</tr>
<tr>
<td>1</td>
<td>Surgical patient investigations. Observation list</td>
<td>7</td>
</tr>
<tr>
<td>2</td>
<td>Acute abdomen semiology</td>
<td>6</td>
</tr>
<tr>
<td>4</td>
<td>Surgical phathology of the thyroid gland</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>Practical skills - exam</td>
<td>6</td>
</tr>
<tr>
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<td>Total</td>
<td>34</td>
</tr>
</tbody>
</table>

**Thematic plan for lessons and practical classes for General Surgery course, IV year of study, Stomatological Faculty, State Medical and Pharmaceutical University „Nicolae Testemitanu”**

**REFERENCES**

**Literature for 2 years of study:**
1. V.K. Gostishchev  
2. The course of lectures of General Surgery Department.

**Literature for 3 and 4 years of study:**


3. Samuel Eric Wilson

**Methods of teaching and learning:**

General surgery is teaching in a classic manner, that include lessons and practical classes. A students will get theoretical information about one or another surgical disease during their lessons that will be strengthen during practical classes. On practical classes will be perform the test of the level of knowledge, the student will be take part in the patient examination, operations and dressing.

**Teaching technologies**
Dominant form of organization: the group.
Teaching-learning-assessment: exposure, case study, investigation, testing, etc.
Teaching means: tables, projector, computer.

**Final evaluation:**

At the promotion exam for “SURGICAL DESEASE” discipline are allowed students with an average grade above 5, also students, which haven’t recovered absences for practical works.

The student is obliged to take examination on the dates fixed in the examination schedule. Students should be informed of the dates of examinations at least 3 weeks before the commencement of an examination session.

A student shall not take an examination without the Examination Sheet and Student Mark Book. Grades received during examinations transcribed in the student’s Mark Book, Examination Sheet and University Database.

Differential colloquy for “General surgery” the students pass at the end of the 2nd year of study, it included only oral test. Final mark consists from 2 components: annual average mark (coefficient 0.5) and oral test (coefficient 0.5).

Exam for “Surgical disease” discipline is complex, it includes a multiple-choice test (“Test Editor” variant USMF “Nicolae Testemitanu”), practical skills test and an oral test, in order to pass the examination the student must receive at least the grade of Low for each part of the examination. The students pass the exam at the middle of 4th year of study.

Multiple-choice test consists of variants of 100 tests each from all lessons of “Surgical disease” course, from which 40% are simple compliment, 60% are composed compliment. The student has in his disposal 2 academical hours to answer the test. Test is marked from 0 to 10.

Oral test is effectuated by providing each student with an examination ticket, which contains three theoretical questions. The student has in his disposal 30 min. To prepare himself to answer. Test is marked from 0 to 10.
Final mark consists of 4 components: annual average mark (coefficient 0.3), oral test (coefficient 0.3), multiple-choice test (coefficient 0.2), practical skills test (coefficient 0.2).

The evaluation is effectuated according the scale:

- 10 „Excellent” (ECTS – A) 91 – 100% learned material;
- 9 „Very good” (ECTS – B) 81 – 90% learned material;
- 8 or Good” (ECTS – C) 71 – 80% learned material;
- 6 and 7 „Satisfactory” (echivalent ECTS – D) 61-65% şi 66-70% learned material;
- 5 „Low” (ECTS – E) 51-60% learned material;
- 3 şi 4 (ECTS – FX) 31-40% and 41-50% learned material
- 1 şi 2 sau „Unsatisfactory” (ECTS – F) 0-30% learned material.

If a student receives the grade under “5” for a course examination or was absent on the scheduled day, he/she shall be entitled to set a retake.

Student may ask to inspect his/her exam papers, but not later than 24 hours since the results were announced.

UNWRAP PROGRAMME OF SURGICAL DISEASE

Introduction

Elementary notion of surgery and surgical disease.
Successive of surgery study inside the universitary course, correlation between surgery and another medical subjects.

Surgical history

The Russian surgery history. The modern surgery schools in the Republic of Moldova. The fisiological and profilactic basic of modern surgery.
Organization of the surgical asistens in Republic of Moldova.
General and specialize surgical asistens. The particularity of modern surgery development.
Surgical asistens in ambulatory and hospital conditions.

Asepsis and antisepsis

Asepsis. Modern methods for attaining asepsis and antisepsis. Sourse of infections. Endogenous and exogenic infection (implant, contact, by air, by drops). The profilactics of the infection spreading by air and drops. The organization of the surgical department, planification, structure, wards, dressing rooms. Operation block: structure, operation room, preoperative room, rooms
for sterilization, room for surgical equipment, anesthesiology service. The steps of cleaning inside de operation and dressing rooms. Methods for attaining asepsis and antisepsis in the operation. The ambulatory surgical room.

**Prophylaxis of the contact infection.**


**Prophylaxis of the implant infection.**

Sterilization of the suture materials. Sterilisation of the allo- and homoplastics material in plastic surgery and traumatology.


**Local anesthesia**

Local anesthetic action. Systemic effects of local anesthetics. Local anesthesia classification (regional anesthesia. conduct anesthesia). Surface anesthesia, infiltration anesthesia, field block, local anesthesia of body cavities, plexus block, epidural (extradural) block, spinal anesthesia, intravenous regional anesthesia. Indication and contraindication for local anesthesia. Complications of local anesthesia.

**Bleeding**


**Blood transfusion**


**Surgical operation. Previous and post operation period**

Surgical operation definition. The planiс, urgent and emergency surgical operation. The palliative and radical operation, the operation in one time and divided into steps. Aseptic, conditional aseptic and septic operations.

Preoperative explorations and preparation of the surgical patient.

Postoperative Surgical Management


Drains. The drains types (passive and active). Drain of the peritoneal cavity and main bile ducts. Drain of the pleural cavity in hydrothorax or pneumothorax, Belau method. Gastric tube application, indication and techniques. Blakmore tube applications.

Infections, punctions, infusions.
Intramuscular injections. Single use seringe using. Determinations of the ampule contents validation. The techniques of opening and collection of the ampula contents. The techniques of intramuscular and subcutaneous injections. The drugs that are contraindicated for intramuscular using. Complications after injection administrations of drugs, prophylaxis. The techniques of novocaine and antibiotics intracutaneous test. The particularity of intravenous administration of Ca drugs and MgSO4 drugs. General and local complication of drugs administration, prophylaxis, the first aid.
Perfusions: intravenous, intraarterherial, their techniques, complications and prophylaxis.
Punction techniques: abdominal, thoracic, joints, abceses formations; complications and prophylaxis.

Closed and opened trauma of the abdomen.
Classification. (isolated, multiple, associated, combinated).

Thoracic Trauma

Head Trauma

Hypovolemic shock
Background. **Definition.** Classification. Etiology. Causes, incidence, and risk factors


Cardiac arrest. Causes, incidence, and risk factors. Indirect massage of the heart. Clinical picture. Heart punction. Indirect massage of the heart. **Cardiac Tamponade,** causes, pericardiocentesis

**Fluids and Electrolytes**

**Maintenance fluid guidelines.** Specific replacement fluids of specific losses.

**Nutrition in the Surgical Patient**

**Local surgical infections.**
Furuncle, carbuncle, abscess, limphadenitis, hidradenitis, erysipelas, phlegmon, mastitis. Panaris, hand phlegmon.
Signs and symptoms of inflammation. Classification.
Infection process of the serosis cavities of the body: peritonitis, pleurities.

**Generalized infection.**

**Anaerobic infections.**
Clostridian and non-clostridian. classification, ethiopathogenesis, clinical manifestation, diagnosis and treatment.

**Osteomyelitis.**

**Necrosis, gangrene, a fistula, un ulcere.**
Dry and wet gangrena, prophylaxis, the general principles of treatment.


**Dressing**
Core purposes of a dressing. Types of dressing.: dry dressings and moisture-keeping dressings. Dry dressings: gauze and bandages, non-adhesive meshes, membranes and foils, foams, and tissue adhesives. Moisture-keeping: pastes, creams and ointments, nonpermeable or semipermeable membranes or foils, hydrocolloids, hydrogels, and combination products. Bioactive dressings: antimicrobial dressings, interactive dressings, single-component biologic dressings, and combination products. Usage of dressings.

**Disorder of the arterial system**
The Ischemic Lower Extremity. Functional tests during examination of the patients with impairment of peripheries arteries. Etiologic factors. Diagnosis.
OBLITERATION ARTERIAL DISEASE. LERICHE’S SYNDROME. Clinical manifestations. Treatment.
OBLITERANT ENDARTERIITIS. Etiology, pathogenesis, clinical picture according to the degrees of the disease. Diagnosis. Treatment.

**VENOUS DESORDERS**


**The semiology of acute abdomen**

**The pathology of the anterior abdominal wall**

Intestinal Obstruction

The stomach and duodenum disease. Complications of gastric and duodenal ulcers. Gastric cancer.


Surgical desease of the liver, gallbladder, common bile duct.

The symptoms of the pancreatic disease
(tumors, cysts, acute and chronic pancreatitis, trauma)

**The clinical sign of the surgical disease of the peritoneum.**
Anatomy and physiology of the retroperitoneal space. Primary retroperitoneal tumors. Tumors of the suprarenal glands. Trauma of the retroperitoneal space. Septic affections of the retroperitoneal space.

**Surgical History and Physical Examination**
Clinical observation list medical, scientific, juridical document. Observation list compartments: Identifying dates, chief compliant, history of present illness, past medical history, past medical history, social history, review of systems, surgical physical examination, laboratory evaluation, diagnosis, daily clinical evaluation, surgical plans for each numbered problem, including preoperative testing, laboratory studies, medications, antibiotics, endoscopy, treatment. Anamnesis vitae.(Review of Systems ): General inspection, respiratory, cardiovascular, gastrointestinal, genitourinary, neurological system

**The clinical examination of the surgical patient.**
Diagnostic procesus:
First diagnostic level: clinical sign that confirm the previous diagnosis.
Second diagnostic level: laboratory and instrumental examinations.
Assessment (Impression): Assign a number to each problem and discuss each problem. Begin with most important problem and rank in order.
Plan: Discuss surgical plans for each numbered problem, including preoperative testing, laboratory studies, medications, antibiotics, endoscopy.

**Anorectal surgical disorders**
Congenital malformations of the anus and rectum (inperforated anus, recto–vaginal fistula, recto–urinary fistula.)


The practical skills in surgical pathology

ACUTE APPENDICITIS
Revealing the clinical signs:

1. Delafoua triade
2. The Rowsing’s sign
3. Psoas sign or Coupe 1 sign
4. Obturator sign or Coupe 2 sign.
5. Kocher (Kosher)’s sign.
6. Sitkovskiy’s sign
7. Bartomier-Michelson’s sign

ACUTE PANCREATITIS
Revealing the clinical signs:

9. Cullen's sign
10. Vosresenski sign
11. Meio – Robson sign
12. Korte symptom

ACUTE CHOLECYSTITIS
Revealing the clinical signs:

13. Murphy’s sign
14. Ortner's sign
15. Georgievskiy-Myussi's sign (phrenic nerve sign)
16. Kher symptom

PERITONITIS
Revealing the clinical signs:

17. Diffuse abdominal rigidity ("washboard abdomen")
18. Blumberg sign
19. Mondor sign
20. Hipokrates face

INTESTINAL OBSTRUCTION
Revealing the clinical signs:

21. Shlanghe sign
22. Vahle sign
23. Obuhov hospitals sign.
24. König sign
25. Clearn enema, hypertonic enima, Ognev’s enema determination and application.
26. X-ray film interpretation of the intestinal obstruction

Complications of gastric and duodenal ulcers.

**PERFORATED ULCER**
Revealing the clinical signs:
27. Delafoua sign
28. Eleken sign
29. Mondore triade
30. The Klark sign
31. Mandel sign.
32. Shlange sign
33. Kulenkampf sign
34. X-RAYS EXAM. OF PERFORATED ULCER
35. Visual determination of coffy grind, melena.
36. Direction and application of the nasogastric tube.
37. X-ray film interpretation in pyloric stenosis

**Abdominal wall hernia**
38. Determination and investigation of the most common hernial gate of the anterior abdominal wall (external inghinal rings, femoral area, omibilical area).

**Disorder of the arterial system**
39. The femoral, popliteal, dorsal, pedal and posterior tibial pulses determination.
40. Arterial function test (Opel sign of plantar ischemia, finger compres sign, Pancenco sign).

**The thyroid gland illness**
41. Tests to evaluate thyroid function
42. Revealing the clinical signs:
   Stelvage sign
   Moebius sign
   Graeffe sign
43. Thyroid gland palpation and groiter classification.