<table>
<thead>
<tr>
<th>Title</th>
<th>GERIATRICS AND GERONTOLOGY</th>
<th>Code</th>
<th>MD 6129</th>
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<td>ECTS Credits</td>
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<td>Teaching Format</td>
<td>Lectures and practical training</td>
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<td>1 st/ 6º</td>
<td>Assessment/ Exam Type</td>
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<td>Bed-side teaching (BST): 35</td>
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<td>Preconditions</td>
<td>INTERNAL MEDICINE I</td>
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## Contents

Parameters of ageing and for assessment of the individual patient of degrees of senescence (biological age) on the basis of ageing markers (life expectancy, senescence, longevity and fertility, etc.).

**Aging theories**

- Cellular ageing mechanisms
- Functional senile changes in the principal organs and systems
- The role of the immune system in ageing and human longevity
- Pathogenic effects of free radicals and of oxidative stress
- Demographic aspects of ageing in Italy and the EU

The "needs" of the elderly, implications of medicalization of the old

**Principles and methodologies of multidimensional geriatric assessment and the operative methods of the geriatric assessment unit**

- The geriatric care network (geriatric OU for acute cases; Integrated Domiciliary Care; Residential Health Care; the Day Centre)
- Knowledge of demography and epidemiology
- Special features of the elderly patient: chronic illnesses; multi-pathologies and disabilities
- The concept of fragility
- Health determinants: poverty, isolation, abandonment and lack of affection
- Ageism
- Principles of pharmacokinetics (absorption, bioavailability, bioequivalence, distribution in the organism, metabolism and elimination) and pharmacodynamics
- Adverse reactions to pharmaceuticals and interactions among pharmaceuticals
- Pharmaceuticals and urinary elimination in subjects with renal insufficiency
- WHO guidelines for the prescription of pharmaceuticals to the old
- Special aspects in the elderly from point of view of diagnosis, prognosis, treatment and rehabilitation of ischaemic cardiopathy and cardiac decompensation; high blood pressure and cerebral ictus; diabetes mellitus; renal insufficiency; COBP and asthma; rheumatic illnesses; anaemia.
- Dementia
- Dysthyroidism
- Sexual zone disorders
- Osteopenia, osteoporosis and osteomalacia
- Recurrent urinary infections
- Motor rehabilitation and re-education
- Rehabilitative strategies useful in the most common internal diseases
- Preventive measures to adopt in the elderly patient
- Malnutrition in the elderly
- Principle of total parenteral nutrition during chronic illnesses
- Sensory and sensorial deficits
- Syndromes from bed rest and immobilization
- Pain in the elderly patient
- Palliative treatments for the terminally ill oncological patient
- Geriatric syndromes, falls, incontinence, delirium
- Sleep disorders, depression

**ELECTIVES**

- Clinical methodology in geriatrics (3 hours)
  - Principles and rules of Evidence Based Medicine
  - Meta-analysis, systematic revisions, guidelines, conference consensus
  - Evidence based medicine in geriatrics
  - Alternative strategies
- Degenerative illnesses of the CNS (3 hours)
  - Parkinson’s disease
  - Framework of clinical diagnosis of dementia
  - Treatment of dementia
  - Neuroradiology
- Geriatric surgery (3 hours)
  - Principal surgical pictures
  - Assessment of surgical risk
- Pre- and post-operative preparation and care
- Artificial nutrition
- Osteo-articular pathology and the elderly (3 hours)
  - Arthrosis, epidemiology, clinical aspects
  - Non-malignant pain
  - Pharmacological treatment
  - Physical and rehabilitative medicine
- The extreme situations of life (3 hours)
  - The cellular, molecular and genetic biology of ageing
  - Progeria syndromes
  - The phenomenon of centenarians
  - Anti-ageing medicine
- Inflammation studies (3 hours)
  - Inflammation theory in ageing
  - Inflammation and pathology
  - The role of anaemia
- Leg mobility as a marker in sub-clinical pathology
- Prevention in geriatrics (3 hours)
  - Physical exercise
  - Restricted calorie intake
  - Primary pharmacological prevention
  - Risk factors in the very old

PROFESSIONAL DEVELOPMENT UNITS
- Assessing the senescent level (biological age) in the individual patient on the basis of ageing markers.
- Collecting case histories in patients with different psychophysical characteristics and in different situations (e.g. taking into account fragility, immobility, loss of hearing, of memory and other changes or disabilities).
- Performing a multidimensional assessment in the elderly patient. Performing a fragility screening test.
- Describing the special features of the elderly patient and coping from the diagnostic, prognostic, treatment and rehabilitative point of view with the disease situations that are increasingly seen in relation to ageing.
- Interpreting reports, especially from a diagnostic perspective, of radiology tests, scans and ultrasound scanning (image diagnostics); endoscopic examinations in various zones (gastroenteric, respiratory, urogenital, etc.);
  - cytological and vascular (ECG at rest, under stress and dynamic, ultrasound scans, coronarography, cateterism, Doppler velocimetric, ecocolor doppler, etc.); functional respiratory (spirometry, hemogasanalysis, etc.),
  - examinations of biological materials (secretions, faeces, serum, effusion fluids, etc.).
- Interpreting the results of the principal diagnostic tests in cardiovascular, renal, respiratory and gastroenteric illnesses.
- Interpreting the biochemical profiles of the following disease pictures: inflammatory condition, anaemia, hydroelectrolytic imbalance, hepatic insufficiency, renal insufficiency, dysthyroidism.
- Assisting a terminal patient with special reference to the treatment of pain.
- Informing and discussing the benefits and risks of a treatment with a patient. Applying pharmacokinetic parameters in posological choices.
- Informing the patient on the method of taking a treatment and verifying the level of understanding and compliance.
- Defining therapeutic index and using it to assess the risk/benefit ratio of a pharmaceutical. Medicating bed sores.
- Performing a screening for dementia and depression. Knowing how to interpret the result of an MOC and establish the best treatment strategy.
- Identifying the need and most suitable methods of nutritional support.
- Knowing how to implement a prevention strategy for delirium.

**Objectives**

**Material/Equipment required**
- Identity badge, White coat and stethoscope

**Additional Costs**
- None