



## Course Syllabus

<b>Course Code</b>	<b>Course Title</b>	<b>ECTS Credits</b>
HEMA-544	Hemostasis	7.5
<b>Prerequisites</b>	<b>Department</b>	<b>Semester</b>
HEMA-541	Life Sciences	Spring
<b>Type of Course</b>	<b>Field</b>	<b>Language of Instruction</b>
Concentration-Hematology	Biomedical Sciences	English
<b>Level of Course</b>	<b>Lecturer(s)</b>	<b>Year of Study</b>
2 <sup>nd</sup> Cycle	Dr. Niki Vyrides Dr. Andria Theodorou	1 <sup>st</sup>
<b>Mode of Delivery</b>	<b>Work Placement</b>	<b>Co-requisites</b>
Face-to-face	N/A	None

### Course Objectives:

The main objectives of the course are to:

1. Identify and discuss the essential components of primary and secondary hemostasis.
2. Discuss, the extrinsic, intrinsic, and common pathways part of the coagulation cascade are defined, and the various laboratory tests used to evaluate hemostasis.

### Learning Outcomes:

After completion of the course students are expected to be able to:

2. Explain the physiology of hemostasis.
3. List and discuss inherited and acquired hemostatic disorders.
4. Discuss the clinical approach to investigating hemostasis.
5. List and discuss anticoagulant and antiplatelet therapy

### Course Content:

1. Fundamentals of hemostasis, including the role of blood vessels, platelets, coagulation cascades, fibrinolytic system, natural coagulation inhibitors, thromboregulation and thrombolysis

2. Primary Hemostasis vs secondary Hemostasis
3. Hemostatic dysfunction related to various diseases
4. Inherited and acquired bleeding disorders (including platelet abnormalities, Hemophilia, von Willebrand disease, Bernard Sillier and Thrombasthenia Glanzmann),
5. Inherited and acquired thrombotic disorders (including DIC, TTP, HELLP, HIT, thrombophilia, thrombosis and thromboembolism).
6. Anticoagulant and antiplatelet therapy
7. Monitoring the therapy with warfarin
8. Acquire the theoretical and practical knowledge for diagnostic procedures related to hemostasis:
  - a. PT, APTT, TT, concentration and/or activity of fibrinogen and other
  - b. coagulation factors, ELT, plasminogen, PAI, circulating anticoagulant, etc.
  - c. Thrombin and plasmin activation: TAT, prothrombin fragments F1+2, D-dimer, PAP
  - d. Platelet function (clot retraction, aggregation, PFA-100, thromboelastography, flow cytometry)
  - e. Laboratory diagnostics of VWF abnormalities (e.g. vWAg, vWR:Cof, RIPA, multimers, ADAMTS13)
  - f. Thrombophilia testing (including A-PCR, FV Leiden, FII, AT, PC, PS, APA, etc.)
  - g. INR, APTT-R, anti-Xa.
9. Clinical cases. Discussion.

**Learning Activities and Teaching Methods:**

Lectures, problem-based learning, poster and/or oral presentations of medical / research papers.

**Assessment Methods:**

Student performance in case studies, assignments, midterm, and final exams

**Required Textbooks / Readings:**

Title	Author(s)	Publisher	Year	ISBN
Transfusion medicine & hemostasis: clinical and laboratory aspects	Beth H. Shaz, Christopher D. Hillyer, Mikhail Roshal, Charles S. Abrams	Elsevier Science	2013	978-0123971647

Blood banking and Transfusion Medicine: Basic Principles & Practises	Christopher Hillyer, Leslie Silberstein, Paul Ness, Kenneth Anderson, John Roback	Churchill Livingstone	2006	9780443069819
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**Recommended Textbooks / Readings:**

<b>Title</b>	<b>Author(s)</b>	<b>Publisher</b>	<b>Year</b>	<b>ISBN</b>
Textbook of Blood banking and transfusion medicine	Sally V. Rudman	Saunders	2005	978-0721603841