

# University Diploma DU T2H

## Thrombosis, Hemostasis in Hematology

### Thrombosis, Hemostasis, Diagnosis and Therapy

Academic Year 2026-2027

*Become an expert in thrombotic risk management and personalised treatment of thrombosis and haemorrhage!*

Join our **University Diploma in Thrombosis, Hemostasis, Diagnosis and Therapy** programme and enhance your expertise in haemostasis and thrombosis.

#### **Why choose this programme?**

- **Theory and Practice**
- After 6 years of success, the DU T2H offers practitioners a unique opportunity to acquire in-depth, practical knowledge in thrombotic risk management and modern, personalised treatment of thrombosis and haemorrhage.
- **Multidisciplinary and International Educational Committee**
- Learn from internationally renowned experts in the field of thrombosis.
- **International Collaborations and Network**
- Join the networks led by the CaVITE Research Team (Cancer, Vessels, Biology and Therapeutics) at the Centre de Recherche Saint-Antoine (CRSA), INSERM UMR\_S 938, Sorbonne Université.
- Center for Translational Research and Education (CTRE), Department of Pathology and Laboratory Medicine, Loyola University, Stritch School of Medicine, Maywood, Illinois, USA
- Join the VAS – European Independent Foundation in Angiology/Vascular Medicine network and take part in the optional European Angiology Days training (<https://europeanangiologydays.net/>).
- **Flexible Programme**
- Organised in 11 modules covering modern topics in thrombosis-haemostasis.
- The programme is entirely online with asynchronous courses via the Moodle platform, enabling self-paced learning.
- **Structured Courses – Interactive Workshops**
- Monthly virtual classroom workshops (one Friday per month, 10:00–16:00), including "meet the expert" sessions and discussions on real clinical cases and experience sharing.
- **Bilingual Programme**
- Courses are available in French and/or English, depending on the audience.



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#### Programme Director:

#### Prof. Grigorios Gerotziafas

Director of the Research Team "Cancer Vessels, Biology and Therapeutics" (CaVITE),  
Centre de Recherche Saint Antoine (CRSA),  
INSERM UMR\_S 938 ; Institut Universitaire de Cancérologie, Sorbonne Université.  
VAS European Independent Foundation in Angiology/Vascular Medicine

Applications by e-mail: [grigorios.gerotziafas@inserm.fr](mailto:grigorios.gerotziafas@inserm.fr)

Applications are open until 10/10/2026.

#### DU T2H Course Organisation

- Pre-recorded lectures available on the Moodle platform (<https://moodle-medecine.sorbonne-universite.fr>)
- One real-time interactive monthly workshop held on the Zoom platform.
- A personalised e-mail with the Zoom connection link will be sent to all students prior to each workshop.
- Workshops will be structured around the analysis of evolving patient case files presenting pathologies related to the module topic. Module-specific guidelines and expert experience will be presented.
- Attendance at all lectures available on the **Moodle** platform and all interactive Zoom workshops is mandatory.

# University Diploma DU T2H

## Thrombosis, Hemostasis in Hematology

### Thrombosis, Hemostasis, Diagnosis and Therapy

#### DU T2H : Educational Objectives

##### Module 1 Physiology of Primary Haemostasis, Coagulation and Fibrinolysis

**Learning Objectives:** Understand the three phases of haemostasis and their molecular mechanisms in relation to pathologies. Identify the clinical and biological markers of haemostatic disorders. Interpret haemostasis tests (primary, coagulation, fibrinolysis) and specialised biomarkers. Correlate pathophysiological mechanisms with clinical signs.

**Teaching Methods:** Moodle Platform – Expert Podcasts: Online lectures (animated visuals, diagrams, video presentations). Case studies integrating simple pathophysiological scenarios. Practical workshop. Decision-making approach.

**Competencies:** Knowledge: Molecular basis of diagnoses. Skills: Targeted reading and prescription of tests. Attitudes: Collaboration with the laboratory for complex cases.

##### Module 2 Pathogenesis of Arterial, Venous and Cancer-Associated Thrombosis

**Learning Objectives:** Understand the molecular, cellular and rheological mechanisms involved in thrombogenesis. Identify risk factors and hypercoagulability biomarkers. Establish correlations between pathogenic mechanisms, clinical contexts and therapeutic strategies.

**Teaching Methods:** Moodle Platform – Expert Podcasts. Practical workshop: Critical analysis of complex clinical cases; guided interpretation of thrombotic biological workups. Decision-making approach: Construction of decision trees and management algorithms according to pathological contexts.

**Competencies:** Knowledge: Mechanisms and pathophysiology of different forms of thrombosis. Skills: Applying knowledge to thrombotic risk assessment and therapeutic decision-making. Attitudes: Integration into a multidisciplinary approach for managing the thrombotic patient, particularly in an oncological context.

##### Module 3 Biological Tools for Thrombotic and Haemorrhagic Risk Assessment

**Learning Objectives:** Know the biological tools for screening and monitoring. Understand the technical basis of haemostasis biological tests. Understand the contribution of biological tests to thrombotic and haemorrhagic risk assessment. Master the interpretation of biological workups in different clinical contexts (surgery, pregnancy, cancer, COVID-19...). Integrate biological results into the therapeutic strategy and personalised patient follow-up. Quality control in the haemostasis laboratory.

**Teaching Methods:** Moodle Platform – Expert Podcasts, educational capsules on haemostasis biological tests (TGT, platelet aggregation, D-dimers, etc.), documentary resources. Practical workshop: Study of haemostasis workups in a clinical context; biological interpretation simulations. Decision-making approach: Development of decision frameworks according to patient profile (bleeding risk, thrombophilia, anticoagulant treatment...).

# University Diploma DU T2H

## Thrombosis, Hemostasis in Hematology

### Thrombosis, Hemostasis, Diagnosis and Therapy

Competencies: Knowledge: Main biological tools for haemorrhagic and thrombotic risk assessment. Skills: Critical reading of results, adjustment of management. Attitudes: Collaboration with medical biologists for at-risk or complex cases.

#### Module 4 Translational Approach to Antithrombotics: From Fundamental Pharmacology to Clinical Challenges in Complex Patients

Learning Objectives: Understand the mechanisms of action of antithrombotics (antiplatelet agents, anticoagulants, fibrinolytics). Link fundamental pharmacological data to clinical application. Analyse the specificities of antithrombotic use in high-risk patients (cancer, COVID-19, elderly, pregnancy, polypharmacy...). Evaluate drug interactions and treatment adaptation strategies. Familiarisation with electronic decision-support tools.

Teaching Methods: Moodle Platform – Expert Podcasts on new molecules, clinical trials, and international guidelines. Practical workshop: Complex clinical cases: choice, adjustment and monitoring of antithrombotic treatments. Simulation scenarios. Decision-making approach: Decision trees integrating biological and clinical parameters and comorbidities.

Competencies: Knowledge: Pharmacodynamic and pharmacokinetic bases of antithrombotics. Skills: Reasoned choice of treatment in a complex context, management of haemorrhagic or thrombotic risk under treatment. Attitudes: Interdisciplinary communication, clinician/biologist dialogue and personalised benefit-risk assessment.

#### Module 5 VTE Prevention: Risk Stratification and Decision Algorithms for Personalised Prophylaxis

Learning Objectives: Understand the pathophysiology of VTE in high-risk contexts (cancer, surgery, hospitalisation, pregnancy, etc.). Identify relevant risk factors and biomarkers for individual thromboembolism risk stratification. Use of risk assessment scores and electronic decision-support tools. Master the criteria for choosing and adapting prophylaxis strategies (pharmacological and mechanical). Integrate international guidelines into a personalised approach.

Teaching Methods: Moodle Platform – Expert Podcasts: Expert presentations and interactive resources on predictive models and guidelines. Practical workshop: Simulation exercises on clinical cases: application of decision algorithms, justified prescription. Decision-making approach: Decision-support tools integrating risk scores (e.g. Caprini, COMPASS-CAT, IMPROVE, etc.) and complex clinical scenarios.

Competencies: Knowledge: Scientific basis of VTE prophylaxis and current guidelines. Skills: Practical use of risk scores and decision algorithms in varied contexts. Attitudes: Rigorous benefit/risk assessment, multidisciplinary collaboration in hospital, outpatient and primary care settings.

#### Module 6 VTE: Complete Clinical Pathway – From Biomolecular Diagnosis to Personalised Therapeutic Strategies

Learning Objectives: Consolidate knowledge on the pathophysiology and clinical forms of VTE. Interpret biological tests in the context of VTE diagnosis. Adapt therapeutic choices to patient

# University Diploma DU T2H

## Thrombosis, Hemostasis in Hematology

### Thrombosis, Hemostasis, Diagnosis and Therapy

characteristics (background, comorbidities, acute context vs. secondary prevention, etc.). Integrate biomarkers, recurrence or bleeding risk stratification into personalised management.

Teaching Methods: Moodle Platform – Expert videos, patient pathway summary sheets, updated therapeutic approaches (anticoagulants, treatment duration, monitoring). Practical workshop: Analysis of real care pathways: from diagnosis to follow-up, with multidisciplinary discussion and case review. Simulation scenarios. Decision-making approach: Application of international guidelines, use of scores and decision-support tools in therapeutic planning.

Competencies: Knowledge: Updated knowledge on VTE, its complications and management. Skills: Ability to integrate clinical, biological and imaging data into an individualised therapeutic decision. Attitudes: Teamwork, care pathway coordination, communication with the patient and the various medical stakeholders.

#### Module 7 Thrombo-Inflammation: Bridging Thrombosis and Systemic Inflammation in Clinical Practice

Learning Objectives: Understand the biological mechanisms at the interface between systemic inflammation and coagulation activation. Identify clinical situations at risk of thrombo-inflammation (COVID-19, APS, TMA, cancers, autoimmune syndromes...). Know how to recognise biological profiles of thrombo-inflammatory activation. Apply international guidelines and integrate biological and clinical data for diagnostic orientation, prognostic assessment and therapeutic strategy formulation.

Teaching Methods: Moodle Platform – Immunothrombosis expert podcasts, PDF resources. Practical workshop: Case studies of patients with systemic inflammation associated with a thrombotic event – therapeutic discussion. Simulation scenarios. Decision-making approach: Use of decision trees for adapted management (e.g. anticoagulants + immunomodulation).

Competencies: Knowledge: Mechanisms of immunothrombosis, knowledge of biomarkers and diagnostic criteria. Skills: Interpreting biological workups in an inflammatory context. Attitudes: Multidisciplinary collaboration (rheumatologists, haematologists, intensivists), reasoned patient-centred approach.

#### Module 8 Decision Algorithms for Antithrombotic Treatment of Atherothrombosis

Learning Objectives: Understand the pathophysiological basis of atherothrombosis. Know the classes of antiplatelet and anticoagulant agents used in the prevention and treatment of atherosclerosis complications. Master international guidelines for antithrombotic management of high cardiovascular-risk patients. Integrate comorbidities into the therapeutic strategy (diabetes, renal failure, cancer, etc.). Use decision algorithms for treatment individualisation.

Teaching Methods: Moodle Platform – Expert Podcasts in cardiology, pharmacology and vascular medicine; updated guidelines provided. Practical workshop: Prescription simulations in different clinical contexts (acute coronary syndrome, stroke, peripheral artery disease...). Simulation scenarios. Decision-making approach: Construction and use of decision trees according to patient profiles. Discussion of benefits and risks.

# University Diploma DU T2H

## Thrombosis, Hemostasis in Hematology

### Thrombosis, Hemostasis, Diagnosis and Therapy

Competencies: Knowledge: Knowledge of atherothrombosis mechanisms, therapeutic targets and combined strategies. Skills: Development of a personalised therapeutic plan, appropriate use of haemorrhagic and thrombotic risk assessment tools. Attitudes: Collaborative approach in cardiovascular medicine, ability to explain therapeutic choices to patients.

#### Module 9 Cancer-Associated Thrombosis in Clinical Practice: Controversies and Therapeutic Dilemmas

Learning Objectives: Understand the clinical implications of specific mechanisms of venous and arterial thrombosis in cancer patients. Identify thrombotic risk factors related to cancer, anticancer treatments and patient characteristics. Understand thrombotic risk assessment scores (COMPASS-CAT, Vienna CATS, Khorana Score, etc.). Integrate thromboembolism and haemorrhagic risk stratification scores in oncology. Master therapeutic strategies adapted to complex patients (haemorrhages, brain metastases, thrombocytopenias...). Analyse current controversies (treatment duration, choice of anticoagulant, drug interactions, unusual thromboses). Apply international guidelines.

Teaching Methods: Moodle Platform – Expert Podcasts in haematology, oncology and thrombosis. Clinical files illustrating real-world dilemmas. Access to guidelines (ESMO, ASCO, ISTH, European Myeloma Network, etc.). Practical workshop: Collective analysis of complex cases with guided discussion. Therapeutic decision simulations with feedback. Decision-making approach: Development of decision trees taking into account varied oncological profiles, benefit/risk balance and interdisciplinary coordination.

Competencies: Knowledge: Mastery of current knowledge on pathophysiology and management of thrombosis in oncological patients. Skills: Ability to individualise therapeutic management according to the oncological context and complications. Attitudes: Networking with oncologists, haematologists and biologists; ability to manage therapeutic uncertainty and patient preferences.

#### Module 10 Thrombosis in Women: Hormonal, Obstetric and Age-Specific Population Considerations

Learning Objectives: Understand the pathophysiological specificities of thrombosis in women in clinical practice, across the different stages of life (puberty, contraception, pregnancy, post-partum, menopause). Identify thrombotic risks linked to hormonal treatments (contraception, hormone replacement therapy, fertility treatments, gender-affirming hormone therapy). Understand the management of thromboembolic disorders in the perinatal period and in patients with specific obstetric risk (thrombophilic syndromes, personal or family history). Adapt the preventive and curative strategy to the clinical, biological and psychosocial specificities of patients. Vascular complications of pregnancy (obstetric antiphospholipid syndrome, pre-eclampsia/eclampsia, etc.): prevention, diagnosis, prognosis, treatment. Apply international guidelines.

Teaching Methods: Moodle Platform – Expert Podcasts in gynaecology, obstetrics and haemostasis. Interactive educational resources on international guidelines and illustrative case studies. Practical workshop: Multi-step clinical case studies: collective discussion on therapeutic choices during pregnancy, around contraception, or in the context of medically assisted reproduction. Decision-

# University Diploma DU T2H

## Thrombosis, Hemostasis in Hematology

### Thrombosis, Hemostasis, Diagnosis and Therapy

making approach: Development of personalised prevention algorithms according to hormonal and obstetric profiles; management of thrombotic risk during high-risk periods.

Competencies: Knowledge: Updated knowledge on the links between hormones, pregnancy and thrombosis. Skills: Ability to prescribe and adjust preventive and curative treatments according to individual risks. Attitudes: Multidisciplinary dialogue with women's health specialists; consideration of ethical issues and patient preferences.

#### Module 11 Controlling Haemorrhage in Complex Situations: Perioperative, Trauma and Antithrombotic Management Protocols

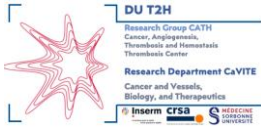
Learning Objectives: Identify complex clinical situations at high haemorrhagic risk (severe trauma, major surgery, patients on anticoagulants/antiplatelets). Know the updated protocols for managing acute haemorrhages. Rationally use diagnostic and therapeutic tools in emergencies (PCC, antifibrinolytics, factor concentrates...). Master perioperative management of antithrombotic treatments. Apply international guidelines. Integrate a multidisciplinary strategy in critical haemorrhagic situations.

Teaching Methods: Moodle Platform – Podcasts and expert feedback in emergency medicine, anaesthesia, haematology and surgery. Practical workshop: Simulated clinical cases of massive haemorrhage (trauma, surgery under anticoagulants, haematological malignancies). Construction of intervention protocols. Decision-making approach: Haemorrhagic management algorithms adapted to specific clinical profiles (age, comorbidities, ongoing treatments). Protocols for administering haemostatic agents.

Competencies: Knowledge: Pathophysiological mechanisms of complex haemorrhages and acquired coagulopathies. Skills: Respond in a structured manner to severe haemorrhages, optimising available resources. Attitudes: Work in emergency settings within a collaborative framework, taking into account organisational constraints and vital priorities.

#### Online Exam – Moodle Platform

Assess the application of guidelines and algorithms. Solve cases requiring a personalised approach. Simulate decisions as a multidisciplinary team.



# University Diploma DU T2H

## Thrombosis, Hemostasis in Hematology

### Thrombosis, Hemostasis, Diagnosis and Therapy

#### Optional Educational Activity

**VAS – European Angiology Days**

**27 – 29 November 2026, fully online**

**Registration:** <https://europeanangiologysdays.net/>

**European Accreditation Council for Continuing Medical Education (EACCME) credits : 16.5 UEMS**

**Organised by the non-profit VAS European Independent Foundation in Angiology/Vascular Medicine**

<https://www.vas-int.net/vas-events/european-angiology-days/>

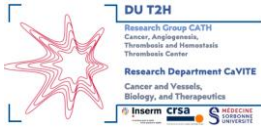
# University Diploma DU T2H

## Thrombosis, Hemostasis in Hematology

### Thrombosis, Hemostasis, Diagnosis and Therapy

#### Interactive Workshop Schedule 2026 – 2027

Module	Title	Online Workshops 2026–2027
1	<b>Physiology of Primary Haemostasis, Coagulation and Fibrinolysis</b> <b>Physiology of Primary Hemostasis, Coagulation and Fibrinolysis</b> Hereditary and Acquired Disorders of Hemostasis	<b>23/10/2026</b> 10:00-16:00
	<b>Pathogenesis of Arterial, Venous and Cancer-Associated Thrombosis</b> <b>Overview on Pathogenesis of Arterial, Venous and Cancer Associated Thrombosis</b>	<b>27/11/2026</b> 10:00-16:00
3	<b>Biological Tools for Thrombotic and Haemorrhagic Risk Assessment</b> <b>Comprehensive Biological Evaluation of Thrombotic and Bleeding Disorders</b>	<b>18/12/2026</b> 10:00-16:00
4	<b>Translational Approach to Antithrombotics: From Fundamental Pharmacology to Clinical Challenges in Complex Patients</b> <b>Translational Antithrombotic Therapeutics: From Fundamental Pharmacology to Clinical Challenges in Complex Patient Populations</b>	<b>29/01/2027</b> 10:00-16:00
5	<b>VTE Prevention: Risk Stratification and Decision Algorithms for Personalised Prophylaxis</b> <b>Venous Thromboembolism (VTE) Prevention: Risk Stratification and Decision Algorithms for Personalized Prophylaxis</b>	<b>12/02/2027</b> 10:00-16:00
6	<b>VTE: Complete Clinical Pathway – From Biomolecular Diagnosis to Personalised Therapeutic Strategies</b> <b>VTE: Complete Clinical Pathway – From Biomolecular Diagnosis to Personalized Therapeutic Strategies</b>	<b>26/03/2027</b> 10:00-16:00
7	<b>Thrombo-Inflammation: Bridging Thrombosis and Systemic Inflammation in Clinical Practice</b> <b>Thrombo-Inflammation: Bridging Thrombosis and Systemic Inflammation in Clinical Practice</b>	<b>09/04/2027</b> 10:00-16:00
8	<b>Decision Algorithms for Antithrombotic Treatment of Atherothrombosis</b> <b>Atherothrombosis Management: Evidence-Based Antithrombotic Treatment Algorithms</b>	<b>30/04/2027</b> 10:00-16:00
9	<b>Cancer-Associated Thrombosis in Clinical Practice: Controversies and Therapeutic Dilemmas</b> <b>Cancer Associated Thrombosis in Clinical Practice: Addressing Key Controversies and Decision-Making Dilemmas</b>	<b>28/05/2027</b> 10:00-16:00
10	<b>Thrombosis in Women: Hormonal, Obstetric and Age-Specific Population Considerations</b> <b>Thrombosis Across Woman's Lifespan: Hormonal, Obstetric and Special Population Considerations</b>	<b>11/06/2027</b> 10:00-16:00
11	<b>Controlling Haemorrhage in Complex Situations: Perioperative, Trauma and Antithrombotic Management Protocols</b>	<b>25/06/2027</b> 10:00-16:00



# University Diploma DU T2H

## Thrombosis, Hemostasis in Hematology

### Thrombosis, Hemostasis, Diagnosis and Therapy

<b>Exam</b>	<b>Controlling Hemorrhage: Perioperative, Trauma &amp; Antithrombotic Management Protocols</b>	<b>02/07/2027</b> 10:00-11:00
	<b>Online Exam on the Moodle Platform</b> Online Exam on Moodle Platform	