1. Orientation and Introduction to WFH
   1. Introduction: commitment, willingness, team
   2. To initiate or start Hemophilia Care Program: support from Ministry of Health, World Federation of Hemophilia, others
   3. Level of care 6 levels, 4 areas
   4. Organization and development of clinical, blood transfusion service
   5. Self reliance
   6. Strategy
   7. National plan for “Hemophilia Care” 2-4 year plan
   8. Tailor made for each country
   9. Planning to organize in each level with support from WHF, WHO, local
   10. Sum up & vision to improve organization in country of each student

2. Clinical Aspects
   1. Approach to patients with congenital bleeding disorders: history, physical examination and laboratory investigation.
   2. Management of patients with hemophilia
      - Patient education
      - Replacement therapy
      - Home care treatment
      - DDAVP
      - Role of pediatrician in preparing patients for dental procedures
      - Genetic counseling
      - Role of rehabilitation
   3. Prevention of hemophilia
      - Identification of carrier by history taking
   4. Outpatient clinic
      - Bleeding clinic
      - Pediatric hematology clinic
      - Adult hematology clinic
      - Rehabilitation clinic
      - Dental clinic
5. Inpatient service  
   - Round ward with hematologists (adult and pediatric), and physiatrist
6. Site visit  
   - Home care visit with ambulatory nurse  
   - Visit community hospital or health care centers, regional national blood center, etc. (1 full day)  
   - Preparation of education material for patient and medical personnel in local language

**Advanced level**
1. Application for advocacy for hemophilia treatment nationwide
2. National registry
3. Management for complicated patients  
   - Major surgery in hemophilia  
   - Radiosynovectomy  
   - Control bleeding in patients with inhibitors  
   - Immune tolerance therapy  
   - Desensitization
4. Prevention of hemophilia  
   - Phenotypic analysis  
   - Genotypic analysis: linkage analysis, screening by CSGE, direct defect detection: inversion of intron 22, MPLA  
   - Sex selection and prenatal diagnosis of hemophilia by phenotypic and genotypic analysis
5. Activity for medical personnel, patients and family member  
   - Organize of hemophilia camp, patient education day  
   - Organize short course training in bleeding disorder for medical personnel

3. **Laboratory technique**
1. Blood sampling, storage and transportation
2. Preparation of normal pooled plasma, FVIII, FIX deficient plasma
3. Screening hemostatic evaluation, i.e. CBC, blood smear, platelet count and morphology, bleeding time, PT, aPTT, TT
4. Mixing VCT as bedside diagnostic test
5. Factor VIII and IX clotting activity assay: tilt tube & automated method
6. Inhibitor screening and assay
7. Preparation of blood sample for DNA extraction
8. DNA extraction method

**Advanced level**
1. How to set up a service for carrier detection
2. Principle of amplification of DNA
3. RFLP and its interpretation
4. Inversion of intron 22
5. Prenatal diagnosis for hemophilia
6. vWF:Ag assay by ELISA, ristocetin cofactor activity
7. Platelet aggregation
8. Protein C, protein S and antithrombin activity assay

**4. Blood Transfusion Service at University Hospital**
1. Strategy for adequate and safe supply of blood products
2. Comprehensive overview of blood donation
3. Appropriate use of blood component
4. Transfusion reactions
5. Pathogen inactivation of blood

**Advanced level**
1. Blood transfusion in hemophilia patients with
   - Multiple antibodies (allo and autoantibodies)
   - FVIII inhibitors
2. Plasma exchange

**5. Good Transfusion Practice and Clinical Use of Blood at the National Blood Center, Thai Red Cross Society**
1. WHO classification for the levels of blood transfusion service
2. Introduction to the concept of QMS in blood transfusion service
3. QMS in National Blood Centre, Thai Red Cross Society
4. Quality assurance scheme for blood transfusion service: Internal and External
5. Preparation, storage and quality control of blood components
6. Quality at the bedside
7. Clinical use of blood and blood products
8. Hemovigilance
9. Blood product
10. Quality control section
11. Blood bag, equipments and solution production
12. Blood collection section
13. Blood screening laboratory and distribution section

**Advanced level**
1. Plasma and fractionation section
2. Antiserum and standard cells production section
3. Reference laboratory in cooperation with WHO section

6. **Dental Section**
1. Basic knowledge in dentistry
2. Dental management in patients with bleeding disorders
   - Conventional technique
   - Use of local hemostatic agent (fibrin glue)
3. Prevention programme
4. Case demonstration

**Advanced level**
1. Perform dental procedure for hemophilia and other patients with bleeding disorder under the supervision of staff
2. Application of fibrin glue and dental splint

7. **Nursing**
1. Demonstration of self-care, venepuncture, dissolving factor concentrate
2. Preparation of education material for patients and family member
3. Observe and see the hemophiliac patients at the OPD and ward
4. Genetic counseling in identifying obligate and possible carrier
5. Telephone counseling for patients and families
6. Home visit: visit the hemophiliac patient at home with the ambulatory nurses to evaluate the hemophilia care of the parents and patient, safe home environment, school and activities of the patient

**Advanced level**
1. Organizing education in hemophilia care for nurse and paramedical personnel
2. Arrange the hemophilia camp, patient education day

**8. Social Work Service**
1. Introduction
   - Medical social work in the multidisciplinary care team of hemophilia and bleeding disorder
   - Site work in term of community / society
2. Site visit
   - Hemophilia patient group
   - Home visit

**9. Rehabilitation Management for Musculoskeletal Problems in Hemophilia**
1. Clinical features
2. Bleeding sites
3. Hemarthrosis
   - Clinical features
   - Pathology
   - Radiologic features
   - Etiology
4. Chronic synovitis
   - Clinical features
   - Pathology
   - Radiologic features
   - Etiology
5. Hemophilic arthropathy
6. Rehabilitation management in hemophilia:
   - Functional problems
   - Aims of rehabilitation
- Management in acute hemarthrosis
- Management in intramuscular hemorrhage

**Advanced level:** Imaging investigation for diagnosis, treatment, and follow up
1. Ultrasound
2. CT
3. MRI
4. Radionuclear medicine application

10. **Psychosocial aspect**
1. Daily living: for patient, family and community level
2. Coping with constraint created from hemophilia
3. Teenage
4. Constraint from limitation of treatment in hemophilia with / without inhibitor

11. **Orthopedic**
1. Acute hemorthrosis
2. Chronic synovitis
3. Pseudotumor
4. Ileopsoas bleeding
5. Fracture

**Advanced level**
1. Corrective surgery for hemophilia arthropathy
2. Radiosynovectomy, with Ultrasound studies and follow up in pre- and post-treatment periods

12. **Sum up section**
Discussion with the Director of IHTC periodically and prepare the reagent and material to take home for setting the hemophilia service upon the arrival to the trainee’s home town.