ulm university universität ulm

Master Online Study Program Advanced Oncology

Study part-time – team-up internationally!

The Medical Faculty of Ulm University and its International Center for Advanced Studies in Health Sciences and Services (ICAS) is offering an international postgraduate study program **Advanced Oncology**, aimed at hematologists and oncologists as well as scientists in the field of hematology and oncology. Founded by international renowned experts and organizations with leading cooperating partners, the study program prepares participants to face the growing worldwide demand for harmonized health care of cancer patients.

Successful completion of the program qualifies for leading positions in hospitals, cancer centers, scientific organizations, pharmaceutical and health care companies. The academic degree Master of Science (MSc Advanced Oncology) will be granted to the postgraduate students at the end of the study.

The study program starts annually with the beginning of the winter semester in October.

At Ulm University, all necessary competencies for postgraduate medical education are available in an ideal way:

- the professional competence due to the research focus on hematology and oncology of the Medical Faculty and the research institutions of the University Ulm
- the outstanding role in clinical research and patient management of the Comprehensive Cancer Center Ulm (CCCU) and the University Hospital
- the long standing experience in medical education, didactics and implementation of internet-based training by the Competence Center for E-Learning in Medicine
- the cooperation of the Medical Faculty with the Faculty of Mathematics and Economical Sciences
- the cooperation of the Medical Faculty, the CCCU and the university hospital with the CRO CenTrial
- the experience in marketing and organization of international postgraduate courses through the International Center for Advanced Studies in Health Sciences and Services (ICAS).

This study program, as an additional offer in continuing medical education, is taught in English and is being financially supported by the “Master Online” Program of the Ministry for Science, Research and Art of the State of Baden-Württemberg.

Demand

There is a growing global demand for academic continuing education of hematologists and oncologists comprising - besides extensive clinical skills in various fields of hematology and oncology - aspects of patient management, standardization of treatment procedures as well as expertise in the performance of clinical trials and cooperation with international companies.

- Oncology is one of the medical specialties with the highest dynamics with respect to new findings as far as molecular mechanisms and their implementation in new therapies are concerned. The development of new drugs is accompanied by a growing demand for clinical trials, participating patients and physicians operationally being in charge of the studies.

- The demographical development of developed countries will lead to an increase of cancer incidences; 78% of all cancer incidences are diagnosed in persons >54 years. In developing countries, the lack of availability of early diagnosis and of therapeutic options adds to a higher relative mortality rate compared to developed countries.

- The establishment of cancer centers requires from physicians and clinical heads not only multidisciplinary knowledge in the field of oncology, knowledge in pharmacology, toxicology, palliative care, psychooncology and integrated therapies, performance and assessment of clinical trials, but also in the management of interdisciplinary groups, quality insurance, development of treatment protocols, clinical pathways and Standard Operating Procedures (SOP), strategic and operative practice and hospital management respectively, comprehension of the legal and economical basics in health care as well as business administration.

- Multinational clinical trials offer patients access to more targeted therapies, which often reach higher response rates, a higher quality of life and a longer life span. Physicians operationally being in charge of the study protocols have to deal additionally with legal and ethical aspects besides clinical care.

- This demand for multidisciplinary skills compares to an organ-specific fragmentation of the training of oncologists in many countries.

Target Audience

The exclusive learning atmosphere in small groups in a close discourse with the lecturer and experts is our understanding of modern, learner-oriented postgraduate medical education.

The target audience is primarily graduates in human medicine currently completing specialized training, but also includes practicing hematologists and oncologists as well as employees of the pharmaceutical industry working in the field of oncology. At the same time, physicians from Eastern Europe and developing countries should be given the opportunity to benefit from the state of knowledge available at

Ulm University. Thus, the study program also conduces to the export of knowledge in order to improve and harmonize the health care of cancer patients worldwide. The study program qualifies to execute leading positions in academic organizations, cancer centers or in the pharmaceutical and health care industry.

Structure of the Study Program – Modulated Time Schedule

The modular composition of the postgraduate study program is pursuing a networked competency development in diagnosis and treatment, in the performance of clinical trials as well as in leadership tasks in cancer centers. Integrated attendance seminars, intensive tutorial guidance and online conferences allow the exchange with renowned international experts. Furthermore, numerous joint activities with international professional societies, organizations and experts support the quality of this endeavor. In this sense, official cooperation has been entered, for instance, with the European School of Oncology (ESO), Italy, with the School of Public Health, University of North Carolina at Chapel Hill, USA, and with CenTrial, a German Contract Research Organization (CRO).

The study program contains 6 modules with a total of 65 ECTS credit points over a period of 2 years and is completed with the academic degree “Master of Science”. In addition, participants may be prepared for the certified exam of the European Society for Medical Oncology (ESMO) and join the Master Class of the ESO, obtain the title of “Clinical Investigator” and receive credit points of continuing medical education by the European Accreditation Council for Continuing Medical Education (EACCME).

Dr. med. Manuela Bergmann and Prof. Dr. med. Götz von Wichert are in charge of the scientific program, which will enable clinical hematologists and oncologists and scientists in the field of hematology and oncology to study in a timely and locally flexible manner and prepare for leadership tasks.

Start of studies with the beginning of the winter semester in October
Application deadline 15th May

Important Dates:

1. *Winter semester*
   - Module 1: Summer School: October (5 days)
   - Module 2: Attendance Seminar: February (5 days)
2. *Summer semester*
   - Module 3: Attendance Seminar: July (5 days)
3. *Winter semester*
   - Module 4: Attendance Seminar: March - Master Class ESO (5 days)
4. *Summer semester*
   - Module 5: Attendance Seminar and
   - Module 6: Summer School: July (7 days)

Module architecture and timeframe

Curriculum Module 2: Interdisciplinary Oncology

M1: Challenges and Introduction

Module 2: Interdisciplinary Oncology

Module 3: Clinical Research

Module 4: Advanced/Integrated Therapies

Module 5: Management

M6: Future Perspectives

2.1 Cellular and Molecular Biology of Cancer
- Cell cycle
- Apoptosis
- Senescence
- Gene structure
- Epigenetics
- Micro-RNA-/protein processing
- Innate immune system and cancer
- Oncogenes
- Transcription factors
- Growth factors
- Tumor suppressor genes
- Tumor invasion and Metastasis
- Cancer Stem Cells

2.2 Diagnostics
- Classification of neoplasms
- Modern diagnostic tools for classification of neoplasms (PCR, Immunohistochemistry, FISH)
- CHIP technology
- Cytological examinations
- Biomarkers
- Genetic counselling
- Radiology
- Nuclear medicine

2.3 Principles of Therapy and Treatment
- Immunotherapy of solid cancers
- Surgery (general overview): curative aspects and palliative aspects, Metastasis surgery)
- Chemotherapy (drugs, modes of drug action, pharmacology, toxicology, pharmacokinetics, dose, timing, effectiveness, targeted therapy)
- Therapy resistence
- Individualized therapy (AML-Modell)
- Radiotherapy
- Stem cell transplantation

2.4 Epidemiology
- Cancer Statistics (Overview, Incidence, Prevalence, Mortality, Survival, Induction and Latent Periods)
- Cancer Etiology and progression: Risk factors (mutation, chemical and radiation carcinogenesis, infection and inflammation, life style and nutrition, hormones, genetics), Prevention
- Pharmacoepidemiology
- Biomarkers in cancer epidemiology

2.5 Interdisciplinary Oncology: On-site
- Molecular methods
- Techniques/diagnoses
- Therapies

2.6 Exam

Curriculum Module 3: Clinical Research

M1: Challenges and Introduction

Module 2:
Interdisciplinary Oncology

Module 3:
Clinical Research

Module 4:
Advanced/Integrated Therapies

Module 5:
Management

M6: Future Perspectives

3.1 Biometry
Introduction
Design of clinical trials: randomized trials, hypotheses, randomization, sample size, cluster randomized designs
Design of clinical trials: Phase I and II, sample size
Implementation: data management, data collection, qualiy assurance, monitoring boards (DSB)
Analysis (ITT, residual confounding, subgroup analysis, group sequential stopping rules)
Missing data imputation
Prognostic and predictive parameters and scores

3.2 Clinical Trials
Clinical Trials Phase I – IV, development program; Phase I in oncology,
Preclinical program
ICH-GCP basic requirements for investigators; deviations of EU legislation from ICH-GCP
Trial documents: Protocol, IB, IMPD
Clinical research organisations: industry, hospitals, private practices, CRO
Registration of clinical trials
Safety, adverse event reporting (drugs, devices), DSMB, data safety manual
Data management, data management plan
Report, Publication
QC, QA: clinical monitoring, monitoring manual, audit, inspection

3.3 Ethical Aspects
National and international guidelines (drugs, devices)
Informed consent, data protection, insurance
Application IRB, working procedures of IRBs
Application Competent Authority, approval process

3.4 Management (Clinical Trials)
Project, project management, classification of projects
Stakeholders in projects
Organizational structure of projects
Project initation, scope definition
Risk management in projects
Work breakdown structure (WBS) of projetcs
Time management of projects
Cost- and resource management
Change management, legal aspects
Controlling processes of projects
Project closure and project learning
IT-support in project management
Tools for the project manager
Communication in projects

3.5 Clinical Research: On-Site
Presentation and discussion of study designs

3.6 Exam
"Clinical investigator Training"

Curriculum Module 4: Advanced/Integrated Therapies

M1: Challenges and Introduction

Module 2:
Interdisciplinary Oncology

Module 3:
Clinical Research

Module 4:
Advanced/Integrated Therapies

Module 5:
Management

M6: Future Perspectives

4.1 Clinical Oncology I
- Breast cancer
- Ovarian cancer
- Cervical cancer
- Endometrial and trophoblastic cancer
- Vulvar and vaginal cancer
- Urothelial cancer
- Prostate cancer
- Germ cell tumors
- Renal cell cancer
- Colorectal cancer
- Gastric cancer
- Esophageal cancer
- Gallbladder cancer and biliary tree cancer
- HCC
- Pancreatic cancer
- Neuroendocrine tumors

4.2 Clinical Oncology II
- Lung cancer
- Mesothelioma
- Head and neck cancers
- Thyroid cancer
- Soft tisue sarcomas
- Bone sarcomas
- Melanoma
- Neuro-Oncology
- AIDS related malignancies
- Cancer of unknown primary
- Acute Leukemia and Myelodysplasia (AML, ALL, MDS)
- Chronic Leukemias (CML, CLL)
- Hodgkin`s lymphoma
- Non-Hodgkin`s lymphoma
- Multiple myeloma and plasma cell dyscrasias
- paraneoplastic syndroms
- pediatric oncology

4.3 Integrated Therapeutic Concepts
- Palliative care and complementary therapies
- Supportive therapy and surveillance
- Ethics and Religion
- Psychooncology
- Communication, Counselling
- Information and management system
- Multidisciplinary tumor boards

4.4 Advanced/Integrated Therapies: On-Site
- Visit of different departments
- Tumor boards
- Psychooncology

4.5 Exam

Curriculum Module 5: Management

M1: Challenges and Introduction

Module 2:
Interdisciplinary Oncology

Module 3:
Clinical Research

Module 4:
Advanced/Integrated Therapies

Module 5:
Management

M6: Future Perspectives

5.1 Business Administration for Advanced Oncology
Introduction to management
Planning and strategic management
Accounting, finance and investment
Organizational theory
Human resources management

5.2 Health Care System
International health care systems
Compulsory health and long term care insurance
National Cancer Registries
Contracting and legislation (Discount, IV, §116b SGB V, §35c SGB V)
Bodies of self-administration (SPIBU, GBA, INEL, BMG, ….)

5.3 Management of Entities and Processes
Projects and interdisciplinary groups
Practice management
Hospital management/NPO
Certification of cancer centers
Patient management
Clinical management of specific cancers, medical pathways
Development of standard operating procedures (SOPs)

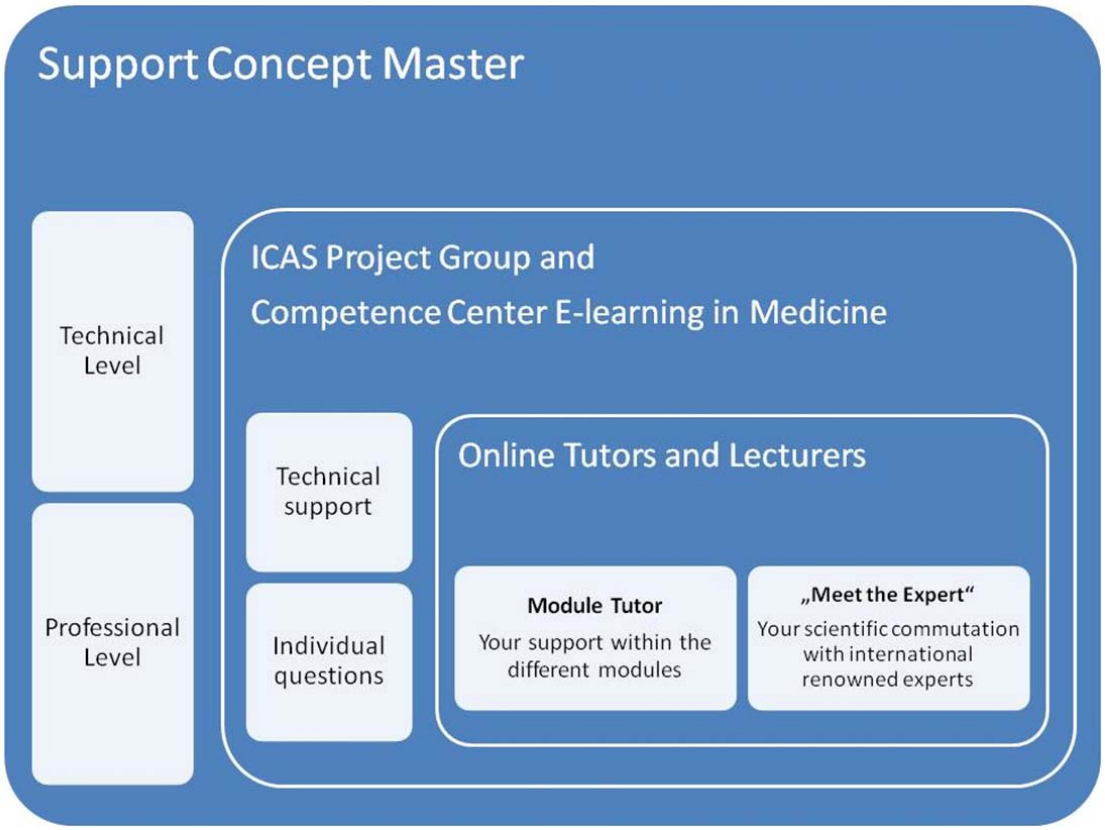
5.4 Management of People
Effective leadership styles
Performance management for excellence
High-performance teams
Negotiating effectively
Reward systems and incentives
Managing with power
Organizational culture and change management

5.5 Management: On-Site

5.6 Exam

Support and Tutoring

The **split-role-tutoring support concept** applied to the study program was developed specifically for students, who are already strongly engaged in their professional life. It will support the participants from the beginning to integrate the study work load in their everyday working life. For this purpose individual contact persons are available to answer technical, organizational and professional questions.



Admission requirements

For admission to the study program completed studies in medicine or natural sciences are required as well as verification of sufficient English language skills (generally substantiated by the TOEFL-exam). In addition, physicians need to account for one year, natural scientists for 2 years of occupational practice in the field of hematology and oncology. The overall grade point average of the university degree will be upgraded by up to 0,6 bonus credits (preselection grade) based on a defined bonus list regarding additional qualification. Depending to the pre-selection grade, there will be an interview performed in the English language. More details are available in the official Admission Regulations of the Study Program Advanced Oncology of Ulm University.

Study fee
The study fee is 4,875 € per semester plus 102 € administrative fee. Payment is due upon receipt of invoice which is issued shortly after enrollment for each semester. An agreement on installments is possible.

Start of Study Program
The study program starts annually with the beginning of the winter semester in October.
Application deadline is May 15th each year.

Further information concerning the study program is available at the homepage www.masteroncology.de.

Please also feel free to consult:

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