



Master Online Advanced Oncology

Study part-time – team-up internationally!

Ulm University is developing an innovative international postgraduate study program **Advanced Oncology**, addressing clinical oncologists as well as scientists in the field of oncology. The study program is being currently implemented by the International Center for Advanced Studies in Health Sciences and Services (ICAS) of the Medical Faculty and by the Comprehensive Cancer Center Ulm (CCCU) and will be launched with the beginning of the winter semester in October 2010.

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

At Ulm University, all necessary competencies are available in an ideal way: the professional competence due to the focus on oncology in the research profile of the Medical Faculty and in patient care of the University Hospital as well as the Comprehensive Cancer Center Ulm (CCCU), experience in didactics and implementation of internet-based training by the Competence Center for E-Learning in Medicine, the cooperation with the Faculty of Mathematics and Economical Sciences as well as the Center for Clinical Trials "CenTrial" and experience in marketing and organization of international postgraduate courses through the International Center for Advanced Studies in Health Sciences and Services (ICAS).

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

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 oncologists comprising - besides extensive clinical skills in various fields of oncology - aspects of patient management, standardization of treatment procedures as well as expertise in the performance of clinical trials and cooperation with the industry.

- 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^[1]. 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.
- A worldwide survey among medical doctors and employees of the health care system was initiated by ICAS and supported by the Regional Offices of WHO. It showed that 71% of the responders see a demand for advanced training in the field of Management, 55% in the field of Clinical Trials and 51% in the field of Hematology/Oncology.
- 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 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.
- This demand for multidisciplinary skills compares to an organ-specific fragmentation of the training of oncologists in many countries.

Target Group

The target group is primarily composed of graduates in human medicine currently completing specialized training, but also includes practicing 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 scientific studies as well as in leadership tasks in cancer centers. In particular, the possibility of part-time learning in a timely and locally flexible manner is of great advantage. 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, and with the School of Public Health, University of North Carolina at Chapel Hill, USA.

The study program contains 6 modules with a total of 65 ECTS credit points over a period of 4 semesters and is completed with the academic degree “Master of Science”. In addition, participants may be prepared for the certification 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).

Start of studies with the beginning of the winter semester in October

Application deadline 15th May

Important Dates (start of studies in 2010):

Winter semester 2010/11

Module 1: Summer School:	25 th - 29 th October 2010 (date changed!)
Module 2: Attendance Seminar:	18 th - 22 th February 2011

Summer semester 2011

Module 3: Attendance Seminar:	1 st - 5 th July 2011
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Winter semester 2011/12

Module 4: Attendance Seminar:	Master Class ESO 24 th - 29 th March 2012 (Ermatingen, Switzerland)
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Summer semester 2012

Module 5: Attendance Seminar:	29 th June - 3 rd July 2012
Module 6: Attendance Seminar:	28 th September - 2 nd October 2012

Module architecture and timeframe



Curriculum Module 2: Interdisciplinary Oncology

Semester 1	M1: Challenges and Introduction	
	Module 2: Interdisciplinary Oncology	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
Semester 2	Module 3: Clinical Research	
Semester 3	Module 4: Advanced Therapies and Integrated Concepts	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
Semester 4	Module 5: Management	2.3 Principles of Therapy 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 resistance Individualized therapy (AML-Modell) Radiotherapy Stem cell transplantation
	M6: Future Perspectives	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 On-site Molecular methods Techniques/diagnoses Therapies
		2.6 Exam

Curriculum Module 4: Advanced Therapies and Integrated Concepts

Semester 1	<p>M1: Challenges and Introduction</p> <p>Module 2: Interdisciplinary Oncology</p>	<p>4.1 Clinical oncology I</p> <p>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</p> <p>4.2 Clinical oncology II</p> <p>Lung cancer Mesothelioma Head and neck cancers Thyroid cancer Soft tissue 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</p> <p>4.3 Integrated therapeutic concepts</p> <p>Palliative care and complementary therapies Supportive therapy and surveillance Ethics and Religion Psychooncology Communication, Counselling Information and management system Multidisciplinary tumor boards</p> <p>4.4 On-site</p> <p>Visit of different departments Tumor boards Psychooncology</p> <p>4.5 Exam</p>
Semester 2	<p>Module 3: Clinical Research</p>	
Semester 3	<p>Module 4: Advanced Therapies and Integrated Concepts</p>	
Semester 4	<p>Module 5: Management</p> <p>M6: Future Perspectives</p>	

Curriculum Module 5: Management

Semester 1	M1: Challenges and Introduction Module 2: Interdisciplinary Oncology	5.1 Business Basics Introduction to management Planning and strategic management Accounting, finance and investment Organizational theory Human resources management
Semester 2	Module 3: Clinical Research	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,)
Semester 3	Module 4: Advanced Therapies and Integrated Concepts	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)
Semester 4	Module 5: Management M6: Future Perspectives	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 On-site 5.6 Exam

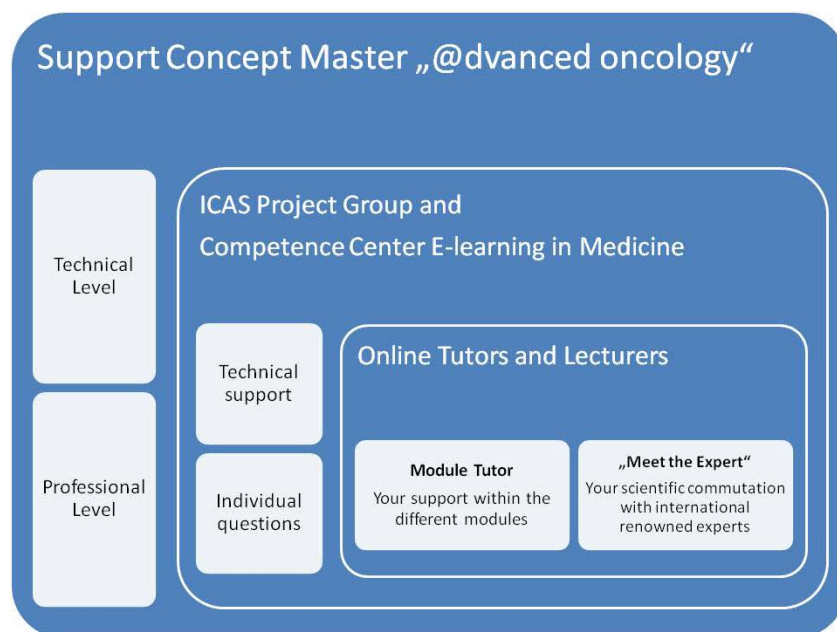
Short description of the Modules

Module 1: Summer School “Challenges” 1 ECTS	Challenges in management of patients, clinical trials and oncological therapies Introduction to Master’s program: structure and E-Learning platform
Module 2: Interdisciplinary Oncology 12 ECTS	Cellular and molecular biology of cancer: Cell cycle, proliferation, senescence & apoptosis, growth factors, oncogenes and tumor suppressor genes, RNA-/protein-processing, transcription, epigenetics, immunology, signal transduction, cancer stem cells Diagnostics: Classification of neoplasms, modern diagnostic tools, cytological examinations, biomarkers, genetic counselling, diagnostic in the clinic Principles of therapy: Goals (curative, palliative, adjuvant, neoadjuvant), surgery, chemotherapy, radiotherapy, stem cell transplantation, therapy resistance, individualized therapy, patient interaction, patient education Epidemiology: Cancer statistics, cancer etiology, biomarkers in cancer epidemiology, pharmacoepidemiology
Module 3: Clinical Research, 11 ECTS	Clinical trials: Types, design, performance and evaluation of clinical studies, animal trials, studies for drug registration and surveillance, studies on non-pharmaceutical therapies, statistics & biometry Management: Planning and performance, evaluation and publication, selection of patients, calculation and controlling of costs, cooperation with industry and sponsoring, transfer of study results into clinical practice
Module 4: Advanced Therapies and Integrated Concepts 12 ECTS	Clinical oncology: State-of-the-art therapies of cancer entities (gynecology, prostate and urogenital carcinoma, gastrointestinal carcinoma, head and neck, neurooncology, melanoma, carcinoma, lymphoma, leukemia, endocrine cancer, paraneoplasms, other rare entities, pediatric oncology Integrated therapeutic concepts: Palliative care, complementary therapies, psychooncology, aftercare, communication, counselling, multidisciplinary tumor boards, information and management system, clinical cancer registry Attendance Seminar: MasterClass in cooperation with the European School of Oncology (ESO)
Module 5: Management 11 ECTS	Business administration: Principles (accounting, finances, investment, business law, strategic management, human resource management), leadership competence, networking Health care system: International health care systems, law and contracts, compulsory health and long term care insurance, national cancer registries, bodies of self-administration Management of entities: Projects and interdisciplinary groups, practice management, hospital management/Non-Profit-Organization, patient management, clinical management of specific cancers, medical pathways, controlling, workflow management Quality control: Monitoring and controlling, computer based planning, development of Standard Operating Procedures (SOP), certification of

Cancer Centers	
Master thesis in one of the 4 main topics, 15 ECTS	
Module 6: Summer School “Future Perspectives” 3 ECTS	New techniques and future treatments, current developments, study results and their relevance Colloquium and Presentation of the Master thesis

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^[4]-exam). In addition, physicians need to account for one year, natural scientists for 2 years of occupational practice in the field of oncology. The overall grade of the university degree will be upgraded by up to 0,6 bonus credits (preselection grade) based on a defined bonus list regarding individual nature of occupational practice. Depending to the preselection 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. More details may be retrieved from the Study Program's Fee Schedule of Ulm University.

Start of Study Program

The study program will be launched in the winter semester in October 2010. Afterwards, the program will be offered annually starting with the winter semester.

Application deadline is May 15th

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

Please also feel free to consult:

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- [1] American Cancer Society. 2007. Global Cancer Facts and Figures 2007.
http://www.cancer.org/downloads/STT/Global_Cancer_Facts_and_Figures_2007_rev.pdf
- [2] GCC Lim. Clinical Oncology in Malaysia: 1914 to present. 2006. Biomedical Imaging und Interventional Journal. doi:10.2349/bij.2.1.e18
- [3] DGHO 2007. Hämatologie und Onkologie 2007. Maßnahmen zum Erhalt einer Patientenversorgung auf dem neuesten Stand der Wissenschaft – orientiert an Evidenz und ärztlicher Kompetenz.
- [4] TOEFL = Test Of English as a Foreign Language