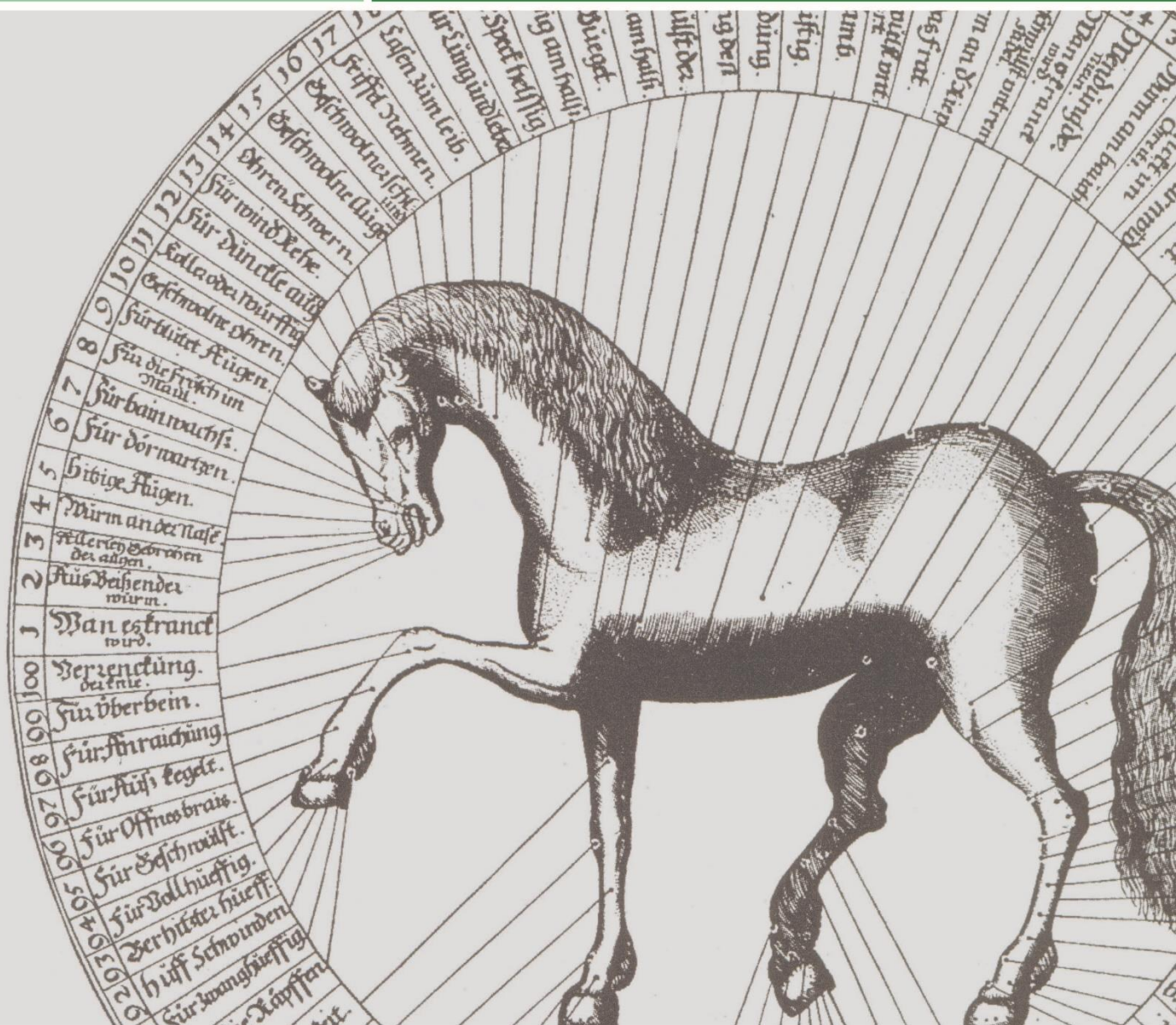




LUDWIG-  
MAXIMILIANS-  
UNIVERSITÄT  
MÜNCHEN



# STRATEGIC PLAN 2023 – 2029





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## **I. Introductory Note**

The Faculty of Veterinary Medicine in Munich was founded in 1790 to fight diseases in animals and improve living conditions for people. Ever since, although the occupational focus shifted from horses and cattle to a rather broad range of farm and companion animals, the focus of teaching and practical work in the clinical setting did not change at our VEE: fighting diseases and illness in animals and improving living conditions for people.

Our Strategic Plan for 2023-2029 represents our collective vision for improving and adjusting our teaching curriculum, relocating all our teaching facilities on a new campus north of the City of Munich in the municipality of Oberschleißheim.

This plan was developed as collaborative process that involved the hearing of external stakeholders, students, faculty, and staff at all levels and reflects the goals, activities and timeline of our two departments – Centre for Clinical Veterinary Medicine and Department for Veterinary Sciences – as well as the University’s Strategic Plan.

## **II. Content Analysis**

Major progress has been achieved in planning one main modern campus in Oberschleißheim. The construction of the Equine Clinic has been completed, and the clinic is now operational in Oberschleißheim. A new lecture hall has also been completed. The new building for the Microbiological Sciences will be completed in spring 2023. Plans for all other facilities that still need to move to Oberschleißheim have been completed, except for the small animal clinic. State funding has been allocated for these facilities, construction is progressing and currently expected to be finalized in 2027, while the Small Animal Clinic is expected to be completed by 2030-32.

The Centre for Clinical Veterinary Medicine decided to merge the Clinic for Small Animal Medicine and the Clinic for Small Animal Surgery and Reproduction under one leadership on April 1, 2023.



## **SWOT analysis of the Faculty of Veterinary Medicine**

### ***Strengths***

- LMU is the largest university in Munich supported by the Bavarian State
- LMU provides central office for administration
- Participation in multidisciplinary graduate schools and centers in the medical and natural sciences and the humanities
- Multiple interactions within the biotech area Munich
- Highest number of board-certified clinical teachers amongst the German veterinary schools
- Dedicated funds and mentoring programs for female and young researchers
- Many top-cited researchers in their fields
- Excellent e-learning tools and Skills Lab
- Largest farm animal facility in Germany
- Excellent private veterinary clinics in the metro-region of Munich
- Large and supportive ALUMNI group

### ***Weaknesses***

- Teaching curriculum rigidly regulated by legal act TAppV
- Student/tutor ratio regulated by the State of Bavaria based on an arbitrary capacity calculation
- No subsidy by teaching fees
- Limited influence of the faculty on permanent positions and salaries
- High number of students per tutor
- Currently three distant campuses necessitate commuting of students and staff

### ***Opportunities***

- Continuous expansion of scientific interactions within the unique life science and biotech region Munich
- Long-standing collaboration with faculties of medicine, biology, and the study of cultural science
- Collaboration with the LMU's Centre for Leadership & People Management
- New campus financed by the State of Bavaria
- College-based postgraduate training programs
- Software available for objectivation of examinations
- Curriculum committee dedicated to improving veterinary teaching and academic curriculum
- New concepts allowing clinical units to pay additional supportive staff by clinical revenues
- Teaching tutorials available for faculty staff
- Fusion of the Clinic for Small Animal Medicine and the Clinic for Small Animal Surgery and Reproduction to the "LMU Small Animal Clinic"
- New interdisciplinary research facilities at the medical campus
- Progressively more women in leading positions
- Implementation of more flexibility in working hours

### ***Threats***

- Student selection solely based on school graduation rankings
- Limited number of stipends compared to high number of students
- Private veterinary clinics compete for patients impeding clinical studies
- No flexibility regarding salaries; competitive salaries are not possible
- Slow-moving decision-making processes at the administrative level pertaining to research proposals, animal test proposals, building planning and structural design
- High administrative effort sometimes additionally delayed by the compilation of many expert opinions



### III. Mission, Vision, Values

The Faculty of Veterinary Medicine of the LMU Munich strives for excellence in all three pillars of academic life: research, teaching and service. Our objective is to provide teaching and service at the highest level possible and to conduct research to improve quality of life in animals and humans. We aim to teach evidence-based knowledge, practical skills and raise awareness for the high expectations towards our profession especially about animal welfare and people skills. Our faculty strives to create a learning environment for our students conducive to critical and independent thinking and lifelong development and learning. State-of-the-art veterinary medicine relevant to **animal welfare, human well-being** and sustainable care for the environment ("One Health") comprises:

- Optimal patient care through world-class specialists in all fields of veterinary medicine practicing a problem-based approach and evidence-based veterinary medicine
- Recognizing and treating zoonotic diseases and conducting research of fundamental disease mechanisms and prophylactic measures to improve the health and well-being of animals and humans
- Improving animal welfare through innovative research
- Ensuring and improving the production of safe and high-quality food of animal origin
- Interdisciplinary engagement with other academic stakeholders, e.g., development of innovative medical models
- Contributing to our understanding of the present by elucidating past health issues

In the Federal Republic of Germany, the veterinary profession is subject to the Federal Laws applying to veterinary medicine (Bundestierärzteordnung, BTO). According to §5 of this law, veterinary education is structured and controlled by the Licensure Act for Veterinarians (Verordnung zur Approbation von Tierärztinnen und Tierärzten, TAppV), issued by the Federal Ministry of Nutrition and Agriculture (Bundesministerium für Ernährung und Landwirtschaft, BMEL). The objectives of veterinary education are stated in Section 1, §1, TAppV: "The objective of the training is an academically and practically trained veterinary surgeon who is capable of practicing the veterinary profession responsibly and independently within the constraints of Section 1 of the Federal Veterinary Code and of undergoing further advanced training. The fundamental veterinary, scientific, interdisciplinary, methodological, and practical skills, intellectual as well as ethical foundations and a professional attitude committed to the well-being of humans, animals and the environment shall be imparted as they are necessary for the entire scope of the veterinary profession to be practiced responsibly, taken into special account the quality assurance." The theoretical framework to achieve these objectives is outlined in Section 1, §2, TAppV, stating that veterinary training shall comprise an academic-theoretical component with a total of 3,850 hours of compulsory and elective courses and a practical component of 1,170 hours.

Our high standards of veterinary medical training provide excellent career opportunities in relevant professional fields for our students. We also offer a wide range of postgraduate training programs in the basic sciences, collaboration opportunities with leading researchers in human medicine in the medical faculty of the LMU, the medical faculty of the Technical University Munich as well as related institutes, such as for example the Helmholtz Institute Munich and the Max Planck Institute for Medical Research. In the clinical setting, a wide array of small and large animal residencies accredited by the European Board of Veterinary Specialisation (EBVS) are offered for numerous specialties. Habilitation programs in basic sciences as well as clinical subjects are further opportunities for postgraduate students interested in an academic career.

The core curriculum is in accordance with the laws and covers all the above-mentioned requirements. In addition, a Curriculum Committee comprised of faculty members from both departments of the faculty as well as student representatives meets regularly with the aim to further fine-tune and improve the veterinary curriculum.





## IV. Goals

### **A. Veterinary Training**

1. Communication with students, staff and stakeholders

The veterinary faculty has very highly motivated teaching staff and students. We are constantly working to maintain the exceptionally high quality of teaching and to adapt it to new challenges imposed by the labor market or by external developments, such as epizootics. To this end, we remain in continuous contact with various professional associations and stakeholders. We will promote the intensive communication with providers of External Practical Training (EPT). Regular surveys and other means of personal exchange will continue to be conducted for this purpose.

2. Student welfare and soft skills

We are aware that the study of veterinary medicine is very demanding and challenging. Therefore, the mental health and resilience of our students is very important to us, and we will expand the support services for students regarding prophylactic measures. The ever-increasing requirements for soft skills, for example communication, are steadily implemented into the curriculum. We offer career workshops for students of higher semesters.

3. Animal welfare, Skills Lab, e-learning

Animal welfare is of utmost importance for our staff and students and always needs to be taken into consideration during the practical training of our students. Further expansion of our state-of-the-art Skills Lab and the constant development of new training models facilitate this daily balance act between meaningful teaching and maintaining excellent animal welfare standards. Nevertheless, hands-on training on living animals continues to play an important role in our curriculum to ensure optimal preparation of students.

We are harnessing the massive innovation in the realm of e-learning that was born out of the necessity of the COVID-19 pandemic to develop a long-term e-learning strategy for the entire faculty, which will support and extend the existing forms of teaching and examination. This strategy will cover classical forms of interactive e-learning programs for students as well as topics such as compulsory e-learning portfolios, further development of the logbook and electronic examinations.

However, the exclusive use of alternative teaching methods like online demonstrations and video lectures during the Sars-CoV2 pandemic have proven to be not a full replacement for classical hands-on training. For example, dissections will still be offered complementarily to ensure a profound understanding of anatomy in preclinical teaching.

4. Curricular development

Based on the student evaluations, minor and major adjustments are constantly being made to the curriculum. A teaching unit has assembled an individual list of learning objectives which helps students for exam preparation. In a next step, these learning objective catalogues will be fine-tuned which will also reveal deficits as well as overlaps. In the student body, there is a demand to achieve more flexibility to accommodate their learning preferences, e.g., by keeping the hybrid formats for lectures, but also novel forms such as flipped classroom teaching.

The current curriculum covers all aspects of veterinary medicine and does not allow any specialization. To enable a certain degree of specialization during the degree program, we have already introduced a tracking system that is based primarily on electives. These so-called “profile lines” will be further developed.



All of the above plans and activities require highly motivated and very well-trained staff. We therefore offer regular training for all staff and young researchers on topics such as teaching, examinations, soft skills and scientific work.

## B. Research

### 1. Translational Medicine

"Translational medicine" is a central topic of funding policy in the field of biomedical research. The Centre for Innovative Medical Models (CiMM) at the Faculty of Veterinary Medicine provides a unique research environment. Moreover, CiMM provides a unique exemplary core infrastructure for various national and international research networks (e.g., German Center for Diabetes Research [Deutsches Zentrum für Diabetesforschung; DZD], the German Research Foundation [Deutsche Forschungsgemeinschaft; DFG] Transregional Collaborative Research Center 127 "Biology of Xenogeneic Cell, Tissue and Organ Transplantation – from Bench to Bedside", and the EU H2020 Project "iNanoBIT").

In the field of small animal medicine, translational research is performed in various clinical areas on aspects of cardiology (congenital cardiac diseases), infectious diseases (corona virus), dermatology (allergic skin diseases), neurology (epilepsy) and orthopedics (bone engineering).

### 2. One Health

Human, animal and environmental health are closely related. The one-health approach serves as a preventive measure and promotes interdisciplinary cooperation, especially between veterinary medicine, human medicine and environmental sciences.

#### i. Reproductive Biology and Medicine

Subfertility in dairy cows is a relevant disruptive factor for animal welfare, animal health and the profitability of dairy farms. High rates of embryonic mortality in the first three weeks after conception indicate that embryo-maternal communication (EMC) is disturbed in this critical phase. In the Clinic for Ruminants various national collaborative projects are using precisely defined *in vivo* and *in vitro* models and multi-omics approaches to investigate mechanisms that lead to disturbed EMC via inflammatory processes. The understanding of these relationships should form the basis for future diagnostic (biomarkers in tissue and secretions) and therapeutic approaches. In the Centre for Clinical Veterinary Medicine, a research-oriented professorship for clinical-experimental reproductive medicine was recently created and filled with a Sofya Kovalevskaya award-winner to advance cross-animal reproductive medicine research at the highest international level. This will provide a new impetus in the field of functional genomics in reproductive biology.

This laboratory is the first at LMU Munich and the second at a German university to receive My Green Lab® certification, spearheading a movement to promote a global culture of sustainability in science. My Green Lab® certification has been recognized by the United Nations Race to Zero campaign and is considered a benchmark for best practices in sustainability. It thus complements the ISO 14001 standard by setting a framework for environmental sustainability in the lab and engaging scientists in improving resource use.



ii. Infectious Diseases and Zoonoses

Many infectious diseases circulate in wild and farm animals before being transmitted to humans. This group of infectious diseases forms the complex of zoonoses, to which, in addition to avian influenza, West Nile fever, monkeypox, Lyme borreliosis, toxoplasmosis or malaria, the new coronavirus diseases MERS and Covid19 are now also to be counted. New prophylactic and therapeutic concepts are also urgently needed for animal-specific infectious diseases, among other things to reduce the use of antibiotics. Therefore, it is necessary to analyze infectious diseases with the help of a broad, integrative strategy and to apply the newly gained understanding to develop and provide intervention measures (vaccines and drugs). Research projects are deliberately diverse yet synergistic to cover the widest possible technological and scientific spectrum.

iii. Animal Domestication and Cultural History of Farm Animals and their Diseases.

The Faculty of Veterinary Medicine with its worldwide unique Chair of Palaeoanatomy, Domestication Research and History of Veterinary Medicine has a long tradition in studying domestication processes and their health consequences for animals in (pre)history. Through its formal connection to the State Collection of Palaeoanatomy Munich (SNSB) the Chair is able to access and analyse large archaeofaunal collections from the last 20,000 years across Eurasia and Africa. The data obtained by the palaeogenomics group also opens up a historical perspective on animal health, infectious diseases and zoonoses. The DFG-, ERC- and Humboldt-funded research in the fields of palaeoanatomy, palaeogenomics and population genomics of animals in a single location is unique in Europe and makes the Faculty of Veterinary Medicine a global player in the field outlined in the title.

### C. Integrated veterinary health care

The veterinary care of livestock in agricultural animal husbandry, supported not least by diverse public discussions concerning the topics of animal welfare and animal protection as well as by the antibiotic minimization strategy of the Federal Government, has experienced an increasing speed of development in agricultural animal husbandry. This has led to corresponding publicly and privately funded research projects, in which the Faculty of Veterinary Medicine was and is actively involved. The goal of current approach is a veterinarian-supervised animal health management in agricultural livestock farms established on evidence-based indicators. This project provides optimized animal health management, optimized for a continuous restriction of the use of antibiotics to an indispensable level while safe animal-derived food is produced.

### D. Staff Development

Numerous professorships will be filled in the period 2023 to 2029. Even though there is a detailed plan for the new appointments, before each position is advertised, the extent to which the denomination meets the current requirements of the Faculty of Veterinary Medicine, and the profession is reviewed again to ensure that teaching, research and services remain at a consistently high level and that diverse synergy effects are possible within the faculty and in Munich.





## **E. New Campus Oberschleißheim**

Four new constructions on the campus in Oberschleißheim will be completed between 2023 and 2029, except for the small animal clinic. This represents a milestone in development for the entire faculty because the new campus will not only be home to modern institutes and clinics, but also to numerous modern facilities for students, such as four lecture halls with sufficient capacity for all students, a modern Skills Lab, a very well-equipped library, and numerous facilities for students and staff, such as a central administration, a refectory and two cafeterias.



## **V. Action Plan**

To achieve the defined goals, the following initiatives will be developed:

### **A.1 Communication with students, staff and stakeholders**

- Establish survey for students after preclinical part (after 2 years)
- Establish follow up survey after final term
- Follow-up surveys every two years following graduation
- Regular meetings with EPT providers
- Evaluation of logbooks by EPT providers and students
- Monitor demand for study places in different areas of veterinary profession

### **A.2 Student welfare and soft skills**

- Regular information of students concerning consulting offers in respect to mental health
- Online-courses to cope with stress situations
- Establish courses teaching learning techniques
- Provide sufficient small seminar rooms for studying in groups
- Provide material on a library lending basis for study groups (e.g., 3-D prints of skulls etc.)
- Promote soft skill courses, such as communication, time management, stress reduction etc.
- Provide courses in career opportunities

### **A.3 Animal welfare, Skills Lab, e-learning**

- Purchase or construction of new skills lab models according to need
- Integration of skills lab courses in all parts of curriculum
- Adoption of an e-learning strategy for the veterinary faculty
- Offer special courses to implement e-learning offers

### **A.4 Curricular development**

- Evaluate and harmonize current learning objective catalogues
- Constant improvement of curriculum according to results of evaluations
- “Profile lines” – reorganization of the tracking system based on electives
- Constant adaption of the student schedules according to the construction progress of the new campus in Oberschleißheim
- Adaption of the teaching plans and schedules following the fusion of the small animal clinics
- Expanding the possibilities for electronic examinations and using reliable examination methods for oral examinations
- Offer a large portfolio of training measures for staff to ensure high quality of teaching and research



## **B. Research**

- Build even stronger research units
- Obtain funding for independent basic research in individual and collaborative projects
- Foster existing and create new national and international research networks
- Acquire state-of-the-art infrastructure and technical equipment for top-level research
- Develop cooperative projects within and beyond the faculty with multidisciplinary research topics to gain wider visibility and attract public interest
- Increase public outreach and gain support by press releases and social media activities

## **VI. Implementation and monitoring**

The execution of the strategic plan is carried out by different committees, depending on the primary responsibility:

- All curricular changes, all evaluations and all continuing education opportunities are initiated and monitored by the curricular committee. The curricular committee guarantees involvement of students and academic staff. Moreover, stakeholders are consulted as necessary.
- The various chairs primarily initiate research activities, and the overall strategy is monitored by the Dean of Research in cooperation with the departments.
- The selection of new professors and all building activities are driven by the dean, the faculty council and the departments, the final decision is made by the university management and the Ministry of Science.

Steps for revisions and updates of the LMU VEE strategy and action plan

- This 2023-2029 strategy and action plan is a living document in an ever-changing environment and advances in faculty priorities, professional developments, and new technologies. Therefore, steps for continued revisions and updates are required to allow the strategy to keep up with changes in the real world. A technical workgroup together with the committee for strategic planning oversee the collection of suggestions for revisions and updates on per-need basis, and serves as a mechanism for the implementation and monitoring of the strategic actions. Annual/biannual updates will include a formal process for consultations with VEE governance bodies (departments).