Annex 1 - UNIC Athens Research Statement

The research programme of UNIC Athens will be aligned with the research programme of the parent institution, UNIC, which targets four strategic pillars that respond to emerging challenges and opportunities.

The thematic areas include:

- **Advanced Artificial Intelligence (ASI)**, which focuses on the broad impacts of transitioning to a post-advanced-AI (post-ASI) society, covering technological, organisational, and social dimensions.
- **Longevity**, which aims to extend healthy life expectancy by leveraging Artificial Intelligence in medicine.
- **Education 2040**, which emphasises how education systems will adapt to a post-ASI society, taking various aspects into account.
- **Decentralised Trust**, which draws on the University of Nicosia's expertise in blockchain technology and cryptocurrencies, with the goal of exploring the decentralisation of trust—vital for resilience in a future dominated by Artificial Intelligence.

The above research activities, implemented at university level in Greece, will be consistent with the academic programmes and the specialisations of the teaching staff at the Athens Branch, while simultaneously strengthening them.

The Branch's research agenda is described in greater detail on the following pages, through the presentation of the research programme of the six Schools that will offer study programmes at the Athens Branch. Specifically, these Schools are:

1. School of Business Administration
2. School of Life and Health Sciences
3. Medical School
4. School of Law
5. School of Sciences and Engineering
6. School of Humanities and Social Sciences

RESEARCH ACTIVITIES IN THE SCHOOL OF BUSINESS

Research in the UNIC School of Business is inspired by, and contributes to, the promotion of technological change, fully aligned with the mission of the School of Business of the University of Nicosia. In recent years, the promotion of research and the production of knowledge in the School have been strengthened in parallel with the rapid increase in the number of students and teaching/research staff. The School's research supports its mission through both basic and applied research.

- In **basic research**, the School produces significant work that influences organisational strategy and management, advances technological progress, and guides businesses toward positive social changes that are economically and environmentally sustainable.
- In **applied research**, the School participates in international collaborations with significant impacts on business, society, and education, working with key social, economic, and policy-making bodies.

At the **Athens Campus**, research in the School of Business will focus on the following areas:

- **Collaborative Environments and Trust Management**

  Research examines the dynamics of trust in collaborative environments, particularly in business and technology sectors. The goal is the standardisation and management of trust based on activities, improving the effectiveness of business partnerships, projects, and digital ecosystems. By developing structured frameworks for assessing trust, businesses can optimise decision-making and reduce risks in their collaborative efforts.

- **Digital Innovation**

  Research at the Athens Campus will focus on transforming new ideas into digital products accepted by the market. A key concern is understanding how exploratory activities add value to the innovation process. These studies provide businesses with knowledge for effective product-development and market-entry strategies, strengthening their competitive advantage.

- **Business Sustainability and Economic Policy**

  A core research pillar that analyses the impact of economic policy and sustainability practices on enterprises. It examines how geopolitical tensions and policy uncertainties affect value chains and proposes strategies for sustainable growth in volatile economic environments.

- **Data-Driven Decision-Making, Advanced Data Analysis, and Forecasting**

Data analysis and Artificial Intelligence (AI) are used to improve decision-making in business environments. Researchers apply hybrid thematic analysis to extract insights that enhance operational performance and customer experience. Integrating advanced analytical tools into business strategies enables firms to optimise operations and forecast market trends.

- **Developments in Smart Cities**

  Research examines the impact of remote work, digital collaboration platforms, and emerging technologies in the workplace on city functionality. Findings contribute to adapting smart cities to improve productivity, efficiency, and resilience in hybrid work environments.

- **Educational Methodologies and Participatory Educational Processes**

  Research focuses on improving teaching methods and educational policies. By fostering an active research culture among educators, the School contributes to innovative instructional strategies.

- **Real-World Applications and Business Impacts**

  The research activities of the Athens School of Business are expected to have extensive applications in the real economy. Addressing challenges in innovation, sustainability, data analysis, and technological adaptation, this research will help develop robust business strategies that promote economic growth and corporate responsibility.

Through these initiatives, research conducted at the Athens Campus will advance knowledge and practice in the fields of digital innovation, technology, and sustainability.

RESEARCH ACTIVITIES IN THE SCHOOL OF LIFE AND HEALTH SCIENCES

Analytical Drug Development and Innovative Delivery Systems

The School of Life and Health Sciences places great importance on advancing the pharmaceutical sciences, emphasising innovative drug development and delivery systems. This research area relies on exploring new technologies that can revolutionise drug formulation and administration, offering significant improvements in efficacy, safety, and patient adherence.

Advanced 3D-Printing and Hot-Melt Extrusion Technologies

At the forefront of this research are advanced manufacturing techniques such as **3D printing** and **hot-melt extrusion**. These technologies allow precise engineering of pharmaceutical forms, enabling the creation of complex doses tailored to patient needs. In particular, 3D printing presents exciting possibilities in personalised medicine, allowing the production of customised drug doses that align with a patient's specific therapeutic requirements. Hot-melt extrusion is used to produce solid dispersions and to improve the solubility of poorly soluble drugs. By enhancing the physical and chemical stability of active pharmaceutical ingredients, this technique significantly increases bioavailability, making medicines more effective.

Nanotechnology in Drug Delivery

Applying **nanotechnology** to drug-delivery systems is a cornerstone of this research initiative. Developing nanoparticles and nanocarriers offers enhanced capabilities to deliver medicines directly to their targets in the body, reducing systemic exposure and minimising side-effects. This precision in drug targeting is critical for treating conditions such as cancer, where traditional therapies often have broad effects.

Researchers explore various nanocarrier systems—such as **liposomes** and **polymeric nanoparticles**—which can encapsulate active ingredients, protect them from degradation, and release them at the desired site of action. This research aims to refine these technologies so they are not only effective but also safe and scalable for widespread clinical use.

Sustainable and Scalable Manufacturing Processes

Sustainability in pharmaceutical production is also a critical focus area. The School is committed to developing processes that minimise environmental impacts and improve efficiency. By exploring the principles of green chemistry, the research seeks to optimise production methods that reduce waste and energy consumption, ensuring that drug manufacturing is both economically viable and environmentally friendly.

These initiatives support the transition of the pharmaceutical industry toward more sustainable practices, addressing both the growing demand for innovative therapies and the need for ecological stewardship.

Real-World Applications and Impact

Research carried out in drug development and delivery has far-reaching health impacts. By improving drug formulation and delivery, the School seeks to enhance therapeutic outcomes, reduce healthcare costs, and improve patient quality of life. These efforts contribute significantly to the development of next-generation medicines and to the advancement of personalised medicine.

Exploring these scientific frontiers benefits not only individual patients but also has the potential to transform public-health policies and practices. As these technologies evolve and integrate into mainstream healthcare, they pave the way for new therapeutic paradigms that are more effective, tailored, and sustainable.

Supporting Pharmaceutical Practice in Public Health

Beyond drug-development research, the School also has a strong commitment to integrating **pharmacists** into public-health frameworks—particularly through **mobile-health (mHealth)** applications and chronic-disease management. This includes empowering pharmacists with the tools and training required to serve as key healthcare providers, extending the reach and impact of health services.

Educational and Professional-Development Programmes

Developing comprehensive training programmes for pharmacists is a priority, ensuring they are equipped to participate in advanced healthcare services and public-health initiatives. These programmes are evaluated for their effectiveness in increasing pharmacists' confidence and competence in areas such as preventive care and patient education.

Ensuring the Safe Use of Over-the-Counter Medicines

Beyond innovative pharmaceutical technologies, research also focuses on public education regarding the safe use of **over-the-counter (OTC)** medicines. This is crucial for minimising misuse and enhancing public health.

Expanding the Role of Pharmacists in Chronic-Disease Prevention

The research invests in defining pharmacists' roles in chronic-disease prevention in both Greek and UK healthcare contexts, addressing barriers such as workload and collaborative inter-professional relationships.

Through these efforts, the School of Life and Health Sciences aims to make significant contributions to pharmaceutical science and healthcare practice, driving progress for individual patients and broader public-health initiatives alike.

RESEARCH ACTIVITIES AT THE MEDICAL SCHOOL OF THE UNIVERSITY OF NICOSIA

The Medical School of the University of Nicosia is excited to expand its research and educational excellence to a new **branch campus in Athens**. This expansion reflects our commitment to cultivating an environment where **faculty members** and **students** can thrive through cutting-edge research and collaboration. Even before the official recruitment of faculty members in Athens, this move is supported by the strong existing research frameworks that define the institution's research ethos and strategic methodologies.

The expansion to Athens aligns with our ambition to broaden our international footprint. The new campus will mirror and enhance our existing research excellence, facilitating exchanges and enriching academic dialogue across borders.

Leveraging our established research foundation and strategic partnerships, the Medical School of the University of Nicosia is ready to contribute significantly to education and research in the health sciences in Athens, fulfilling our leadership mission in education and research.

Embedding research within a supportive learning environment across all disciplines lies at the core of our philosophy. We believe that integrating research into the curriculum is vital to maintaining academic relevance and rigor. The University of Nicosia has designated **"One Health"** as a research priority, recognising the interconnection between human, animal, and environmental health. This strategic orientation aims to promote research initiatives from basic science to applied clinical research and to public and global health.

Our Medical School supports **faculty members** in multiple ways: the **Associate Dean for Research**, a dedicated **Medical School Research Committee**, and a comprehensive **Research Seed Fund** that provides initial funding to promising projects. These goals are further supported by postdoctoral fellowships and funded doctoral studies, encouraging the development of strong research teams.

The Medical School underscores the importance of scholarly output, supporting its faculty members to publish in high-impact scientific journals and to present at major international conferences. Faculty members participate and will continue to participate actively in national and international research-funding proposals, ensuring the sustainability and global connectivity of the research endeavours.

Research at the Medical School is channelled through two departments:

1. **Department of Basic and Clinical Sciences:** Cancer Biology, Regenerative Medicine, Infectious Diseases, Medical Education and Emerging Technologies.
2. **Department of Primary Care and Population Health:** Environmental Health, Biostatistics, Public Health, as well as Clinical and Primary Healthcare.

Several research groups of the Medical School of the University of Nicosia actively advance knowledge in their specialised fields. These include:

1. **Neuroscience and Artificial Intelligence Group:** Its purpose is to investigate the intersection of neuroscience and artificial intelligence technologies for innovation in diagnostic and therapeutic strategies.
2. **Medical Education Group:** Its purpose is to enhance educational methodologies and clinical communication skills through the use of advanced technologies, such as virtual reality.
3. **Infectious Diseases and One Health Group:** Its purpose is to investigate diseases with an interdisciplinary approach, examining human and animal health within environmental contexts.
4. **Epidemiology and Public Health Group:** Its purpose is to analyse the trends and causes of health and disease in populations to inform public-health interventions.
5. **Genetics and Regenerative Medicine Group:** Its purpose is to study genetic and cellular therapies to address complex medical conditions.
6. **Cancer Research Group:** Its purpose is to strengthen the understanding of the local cancer landscape by promoting collaborations among researchers with different expertise and by educating professionals on cancer prevention and management.

These groups exemplify the School's commitment to interdisciplinary collaboration and to addressing complex challenges in the health field through focused research.

The Athens campus will feature state-of-the-art research laboratories. It will benefit from extensive clinical-research capabilities through the exclusive collaboration of the Medical School with the largest healthcare group in Greece. We will encourage participation in clinical trials and will explore the possibility of creating a dedicated **Clinical Trials Unit**. Such a unit could serve as a focal point for translating laboratory findings into clinical applications, fostering an environment that favours pharmaceutical and therapeutic developments. The interdisciplinary collaboration spaces will also encourage interdisciplinary research and innovation, promoting collaborations among faculty members and students.

The **"Students in Research Programme" (SIRP)** is an initiative that enables medical students to participate meaningfully in research activities. This extracurricular programme invites medical students to collaborate with faculty members on various research projects covering many disciplines. SIRP is designed to immerse students in real research scenarios, providing hands-on experience that can lead to conference presentations and publications. The programme not only cultivates students' skills in scientific research but also promotes early professional development, preparing students to contribute to the medical field with innovation and insight. The Athens branch aims to replicate and

enhance this programme, offering students of this campus similar opportunities for direct involvement in pioneering research programmes.

Partnerships and Collaborations

Our local, regional, and global partnerships play a decisive role in expanding the reach and impact of our research. Collaborations with research and clinical institutions, medical and professional societies, and various local and international hospitals and agencies provide **students** and **faculty members** with unparalleled opportunities for clinical and academic development.

RESEARCH ACTIVITIES OF THE SCHOOL OF LAW

Introduction

To advance research in legal studies, the following actions are set out:

1. **Excellence in research** conducted in the scientific fields covered by the Law programme—both the classical areas of Public, Civil, Criminal, Commercial, and International/European Law, and the more contemporary and innovative areas such as the application of Artificial Intelligence to Law; the interface of law with Technology, the Economy, Society, and the Arts; and modern specialised legal fields such as Energy and the Environment.
2. **Linking teaching with research** by adopting modern, problem-based teaching methods grounded in research questions, using case studies and current practical issues so that students learn through contemporary research activity. Students are treated as active participants in producing research, not merely as recipients.
3. **Development of applied research** by integrating the methodological tools of Legal Science and the Social Sciences—especially by evaluating the effectiveness of justice and mapping legal rules within social reality—using both qualitative and quantitative research tools and modern procedures.

On this basis, the fundamental pillars of the School's research activity at the Branch are as follows:

Research on Greek Law in a Comparative and Interdisciplinary Framework

The School's staff will promote research on Greek law, placing it within the international and European comparative legal context. Greek law has developed significantly, leading to continuous scholarly dialogue that often considers developments mainly in civil-law countries such as Germany and France, as well as case law of the CJEU and the ECtHR. The School's researchers, specialised in Greek law, have developed the ability to conduct research comparatively, taking into account developments not only in civil-law but also in common-law jurisdictions and at international/European level. The intention is to carry out research in current areas of Greek law, employing comparative-law methodology and the methodological tools of the Social Sciences.

The aim is to conduct comprehensive studies that allow comparative and multi-level readings of Greek law, place the choices of the Greek legislator and judiciary within the European framework, and assess them with the tools of comparative law or the Social Sciences, as appropriate. This will advance scholarly dialogue nationally and internationally while offering proposals for reflection and improvement of existing legislative and case-law choices, taking particular account of international conventions and the European framework for the Rule of Law and for Sustainable Development.

New Technologies and Law

The School of Law attaches great importance to how law interacts with new technologies, both from the perspective of regulatory compliance and that of restructuring existing legal norms due to the evolution of traditional rules of social coexistence. Specific research projects will evaluate how new technologies are addressed by the law, particularly in areas such as artificial intelligence, digital currencies, and electronic justice. New technologies affect traditional fields such as contract law through the introduction, for example, of self-driving vehicles or contracts concluded on digital platforms, as well as all sectors of modern commerce more broadly. This research area is not limited to the traditional analysis of legislation and case law but extends to examining how legislation operates within social reality.

UNIC ATHENS RESEARCH IN COMPUTER SCIENCE AND DATA SCIENCE

UNIC Athens aims to become a leading center of excellence in research, innovation, and technology development. Research initiatives in Computer Science and Data Science will focus on addressing real-world challenges, advancing scientific knowledge, and fostering interdisciplinary collaboration. The key research areas will include Artificial Intelligence and Machine Learning, Big Data Systems, Mobile Computing and IoT, and Security, Trust, and Privacy. These areas align with global technological trends and societal needs, ensuring that research contributes meaningfully to academia, industry, and public policy. The research agenda is in line with the research agenda of the University of Nicosia School of Sciences and Engineering.

Research Focus Areas

1. Artificial Intelligence, Machine Learning, and Data Mining

AI and Machine Learning continue to be at the forefront of technological innovation, driving advancements in automation, decision-making, and data-driven insights. Research in this area will focus on:

- **Explainable AI (XAI):** Ensuring AI models are transparent and interpretable.
- **Personalized Medicine & Predictive Analytics:** Using AI to improve healthcare outcomes.
- **Smart Infrastructure:** AI applications in urban planning and smart cities.
- **AI Ethics & Fairness:** Addressing bias and ensuring responsible AI deployment.
- **Natural Language Processing (NLP):** Enhancing machine understanding of human language for applications in chatbots, translation, sentiment analysis, and information retrieval.

The societal impact of AI spans multiple domains, from revolutionizing healthcare diagnostics to optimizing business strategies and influencing policy-making through AI-driven sentiment analysis and behavioral modeling. Ethical AI development and equitable access will remain central considerations.

2. Big Data Systems and Technologies

With the exponential growth of digital data, research will focus on developing efficient, scalable, and secure solutions for big data processing. Key areas include:

- **AI-Driven Data Analytics:** Integrating machine learning models with big data analytics to extract meaningful insights.
- **Real-Time Data Processing:** Enabling applications in finance, healthcare, and cybersecurity.

- **Federated Learning:** Advancing privacy-preserving AI techniques.
- **Edge Computing:** Enhancing data processing at the source to reduce latency and improve efficiency.

Big data research will play a crucial role in optimizing smart city operations, improving business intelligence, and advancing climate science by analyzing large-scale environmental data.

3. Mobile Computing, IoT, and Wearable Technologies

The integration of smart devices, 5G⁺/6G networks, and IoT is shaping the future of connected technologies. Research efforts will explore:

- **Edge & Cloud Computing:** Balancing the synergy of efficiency, latency, and security within digital ecosystems.
- **IoT in Smart Cities & Healthcare:** Applications in real-time monitoring, automation, and infrastructure optimization.
- **Wearable Devices:** Advancing health monitoring systems and the accuracy of real-time patient tracking to improve well-being.
- **Green Mobility-Based Protocols:** Pioneering sustainable and environmentally conscious approaches to IoT networks to support a more sustainable future.

These innovations will contribute to developing intelligent transportation systems, energy-efficient urban environments, and new paradigms for personalized healthcare.

4. Security, Trust, and Privacy

With the increasing digitalization of services, cybersecurity remains a critical research domain. Research in this area will focus on:

- **Zero-Trust Security Models:** Strengthening cybersecurity defenses.
- **AI for Cybersecurity:** Leveraging AI-driven threat detection and response mechanisms.
- **Privacy-Preserving Technologies:** Advancing encryption and differential privacy techniques.
- **Regulatory Compliance & GDPR Frameworks:** Ensuring secure and legally compliant data management.

The protection of critical infrastructure, personal data, and corporate information is essential for maintaining trust in digital systems and ensuring long-term technological sustainability.

Interdisciplinary Collaboration & Industry Engagement

UNIC Athens will foster interdisciplinary research collaborations with other disciplines such as Engineering, Medicine, and Social Sciences to develop holistic technological solutions. Partnerships with industry leaders, startups, and governmental organizations will be encouraged to accelerate innovation and ensure that research findings have a tangible societal impact.

Conclusion

The research initiatives at UNIC Athens will focus on addressing emerging challenges and leveraging technological advancements to drive innovation. By prioritizing AI, big data, mobile computing, and cybersecurity, the Department of Computer Science will contribute to global knowledge while developing solutions that benefit society, industry, and policy-making.

RESEARCH ACTIVITIES OF THE SCHOOL OF HUMANITIES AND SOCIAL SCIENCES

Comprehensive Research in Psychological Sciences

The School of Humanities and Social Sciences of the University of Nicosia is dedicated to advancing research in psychology, focusing on individual well-being

Psychometric Development and Personality Assessment

One of the key research areas involves developing and validating psychometric instruments for assessing personality and psychopathology. This includes the Greek Personality Psychopathology Inventory (GPPI-5), which is tailored to align with the DSM-5 Alternative Model for Personality Disorders. Research in this field employs advanced statistical techniques such as Exploratory Structural Equation Modeling (ESEM) to ensure the reliability and validity of the assessments.

This work supports clinicians in diagnosing and understanding personality disorders, contributing to more personalized therapeutic interventions. By improving assessment tools, the faculty facilitates enhanced clinical decision-making in mental health settings.

Dyadic Coping and Illness Representations

Research also delves into dyadic coping strategies within the context of chronic illnesses, such as cancer. Studies explore how patients and their partners manage emotional and cognitive stressors, focusing on the dyadic regulation of emotions and illness representations. This approach highlights the mutual influence partners have on each other's health perceptions and behaviors, underscoring the importance of collaborative coping in enhancing patient outcomes.

These findings suggest that interventions that engage both partners can be more effective in supporting patients' psychological adaptation to illness. Understanding these dynamics is crucial for developing comprehensive care strategies that address both individual and relational health needs.

Social Media Use and Psychological Well-being

The relationship between social media use and psychological well-being is another vital research focus. Studies examine how addiction to social media correlates with psychological distress and explore protective factors such as self-compassion. Structural equation modeling is used to analyze these relationships, providing insights into the complex interplay between digital media consumption and mental health.

This research identifies self-compassion as a potential mitigating factor, suggesting that interventions designed to enhance self-compassion could reduce social media addiction and its negative psychological impacts. These insights are valuable for developing digital wellness programs that promote healthier online behaviors.

Self-Efficacy and Psychological Well-being During the COVID-19 Pandemic

The School's research extends to understanding the psychological impacts of global events, such as the COVID-19 pandemic. Studies investigate how pandemic-related representations and self-efficacy influence psychological well-being during lockdowns, providing critical insights into how individuals cope with widespread uncertainty and stress. Findings from this research emphasize the value of resilience and self-efficacy in managing psychological challenges during crises. These insights contribute to developing support systems and interventions to enhance community resilience and mental health during and after global emergencies.

Organizational Psychology and Emotional Regulation

Research on organizational psychology focuses on emotional regulation and coping strategies in professional settings. This includes examining how emotional intelligence and regulatory strategies affect workplace dynamics and employee well-being. Studies highlight the importance of fostering healthy emotional processes within organizations as a means to improve job satisfaction, productivity, and team dynamics. These investigations, support the development of workplace interventions that enhance emotional intelligence and foster positive organizational environments, ultimately contributing to improved employee health and organizational performance.

Interdisciplinary Research and Collaboration

The School of Humanities and Social Sciences fosters interdisciplinary collaboration, integrating insights from psychology, sociology, and cognitive science to address complex human behavior and social dynamics. This collaborative approach ensures comprehensive research outcomes that inform policy and support practical applications across diverse domains.

As the School expands its research scope, it remains committed to contributing to the academic community and wider society, enhancing understanding of psychological and social phenomena. By producing high-impact research, the School aims to influence public health strategies, clinical practices, and organizational policies, ultimately improving individual and community well-being.