



جامعة العلوم والتقنية في الفجيرة
UNIVERSITY OF SCIENCE & TECHNOLOGY OF FUJAIRAH

USTF Research Strategy



February 2024

Research Strategy

Policy Name	Research Strategy		
Policy Owner	Deanship of Graduate Studies and Research	Reviewed	Annually
Approved By	Vice Chancellor for Academic Affairs	Approval Date	

University of Science and Technology of Fujairah (USTF) places strong emphasis on research and scholarly activities of faculty, teaching assistants, and students. In fact, research is one of the main criteria for recruitment, evaluation, and promotion of faculty members. The faculty member at USTF is expected to publish two peer reviewed research papers in reputable international journal each academic year. USTF faculty at the colleges of Dentistry, Engineering and Technology, Pharmacy and Health Sciences, and Business Administration must publish two journal articles in reputable SCOPUS-indexed journals, while faculty at the colleges of Law and Humanities and Sciences must publish two journal articles in reputable A, B, or C class journals, according to USTF's classification. USTF encourages joint research publications among faculty members but not at the expense of the overall university research productivity. If two or more USTF faculty members jointly publish research papers, the number of published papers per each faculty must be two at least. Goal (2) of USTF's Strategic Plan 2018-2023 reflects the importance of research to USTF community. As a new proactive University, USTF aligns its research objectives with the UAE Centennial Plan 2071 in addressing global problems of national impacts.

Commitment to USTF Research Goal

The following are some of the actions taken by the University towards realizing research goal and objectives of USTF Strategic Plan 2018-2023:

- 1. Participating in National Research Activities:** In cooperation with the TDRA (Telecommunication and Digital Government Regulatory Authority) in UAE, the University has organized the UAE Fujairah Hackathon Competition during February of the years 2018, 2019, 2020, 2021, 2022, and 2023 and a research team from the University won the first place in the competition on the UAE level during the 2018 and 2021 rounds.
- 2. Providing Internal Research Funds:** The University funded several research projects in the five academic years 2018-2023. The principal investigators (PIs) of research teams usually submit progress reports on their research projects and the final reports of their research projects by the end of August.
- 3. Encouraging Faculty Publications:** The University supports faculty publications in international reputable journals of high impact factors and provides publication fees on behalf of faculty members. USTF also encourages faculty participation in reputable SCOPUS-Indexed conferences on national, regional, and international levels and provides travel allowances, tickets, and conference participation fees.
- 4. Establishing USTF Council for Graduate Studies and Research (CGSR):** The University established the CGSR at the beginning of the academic year 2019-2020 to handle, processing, and follow-up research projects submitted for internal funding. The council also organizes the annual students' research conference, training, seminars, and workshops.
- 5. Encouraging Collaborative Research:** USTF seeks to make use of the established relationship with national, regional, and international universities and research institutions, in promoting mutual research benefits between USTF and those institutions. The Memoranda of Understanding (MoUs) and cooperation agreements between USTF and several universities and research

partners shall increase research productivity and improve the quality of research publications. Many individual joint research cooperation projects are ongoing between USTF's faculty and partner colleagues all over the world. USTF look forward to bringing many of these activities up to the institutional level.

Research Objectives

The UAE strategic goals for the future include capital and the youth; technology and smart software; sustainability, sustainable development, environment, and climate change; infrastructure and transportation; healthcare; education; happiness and positivity; energy; economy and commercial security; financial resources; government and government services; international relations and politics; food and water security; and electronic security. In line with these, USTF's research objectives for the academic years 2018-2023 are focusing on sustainability and sustainable development; artificial intelligence, smart cities, automation; enhancement of health care; cyber security, social sciences and society; and law. USTF encourages faculty and students to concentrate on these objectives in their research efforts and graduation projects.

1. Sustainability and Sustainable Development

- a. The College of Engineering and Technology, along with other researchers in pharmacy, dentistry environment, business administration, law and social sciences, are cooperating in joint research projects addressing sustainability and sustainable development in the UAE and the Gulf Region.
- b. The depleting conventional energy sources such as oil and natural gas and emerging renewable energy sources such as solar energy has led the UAE government to move from oil-based economy to knowledge-based economy and to host IRENA (International Renewable Energy Agency) in the Capital City Abu Dhabi. In harmony with these national efforts, the College of Engineering and Technology at USTF has started offering a new concentration in electrical engineering power and renewable energy. Both areas lie in the core of sustainability of energy sources in the UAE and Gulf Region. USTF considers this theme of research as one of its research priorities.
- c. In line with the UAE Innovation Strategy 2014 and the Commission for Academic Accreditation (CAA) in UAE requirement, USTF is teaching innovation, entrepreneurship, and sustainability as a university requirement course to all students. The method of teaching the course is unconventional and trains students on materializing their innovative ideas into real-world projects. USTF believes that research in innovation supports sustainability and promotes the culture of creative thinking among individuals of USTF community.

2. Artificial Intelligence, Smart Cities, and Automation

- a. Objective (5.2) of Goal (5) of USTF Strategic Plan 2018-2023 can be realized by reducing energy and water consumption, installing the latest communication and information technologies in university buildings and use of computerized maintenance management system. These three actions are examples of research themes in artificial intelligence (AI). USTF is planning to offer a master's program in AI in the future.
- b. USTF has taken a further step in spreading the culture of AI and providing some university graduates with the knowledge, skills, and competencies in this skyrocketing technology domain. Based on the CAA's approval, USTF has already launched a new concentration in EE-AI, starting from the Fall Semester of the Academic Year 2023-2024.
- c. Application of AI in conjunction with the use of alternative energy sources can lead to reduction in the on-campus energy and water use. Automatic shutdown of lights in vacant lecture halls, labs or any other university facility can reduce energy consumption. On the other hand, the use of treated wastewater for landscaping can ease pressure on more expensive water sources. Results

of research in energy and water resources are not only beneficial for resources management at USTF but can set examples of best university practices on national and regional levels.

- d. Providing USTF facilities with the latest communication and information technologies will require high initial capital investment but will certainly reduce costs in the long term. Installing videoconference facilities used in meetings with other institutions reduces time, effort, and travel expenses. Library silent study rooms, labs, and clinics increase teaching and learning efficiency and reduce cost. Research and feasibility studies can lead to improvement of university facilities and infrastructure.
- e. Integration of smart devices in the university facilities and services improves the quality of life and provides sustainable, smart solution to the challenges facing the University. The holistic, innovative, and smart approaches in management of USTF facilities, including placing of work orders for moving, spraying, and cleaning can be facilitated through application of AI techniques. Automation of reporting, digital transformation, and usage of a computerized maintenance management system improve efficiency of USTF campus services.

3. Enhancement of Human Health

The Colleges of Dentistry, Pharmacy and Health Sciences, and Engineering and Technology are conducting advanced research targeting enhancement of human health by early detection of diseases with the use of AI, information technology, and data analytics tools. The three colleges also cooperate with local, regional, and international partners in research activities targeting enhancement of human wellbeing and health. Social sciences are also playing a major role in research targeting people of determination and students facing learning difficulties. USTF Center of Counseling and Happiness is providing student counseling and organizes seminars and workshops for students on how to cope with study stresses and to withstand exams pressure, in addition to other personal and family issues affecting students' academic stand. Covid-19 Pandemic provided a unique experience to USTF faculty to engage in research activities dealing with the spread, control, and consequences of such events which affected the whole world.

4. Cyber Security

Living in a technology driven world, where electronic transaction, e-governments, AI, internet-of-things, Generative Pre-trained Transformer (GPT), are becoming main tools is challenging. Individuals' credentials, belongings, assets, and information are no longer protected against thefts, manipulations, blackmailing via evil professional hackers and internet violators. For this reason and to contribute to the society need for trained individuals, who can protect the people, their money, and personal information and life, USTF's College of Engineering and (CET) has decided to offer an IT program in two concentrations namely, Cyber Security and Data Analytics, focusing on the latest emerging technologies that give new job opportunities to the university graduates in UAE, regional, and global market. The program graduates are equipped with the knowledge, skills, and competencies to take them professional in cyber security and data analytics upon their graduation.

5. Social Sciences and Society

Social sciences, such as sociology and psychology, research plays a vital role in understanding and analyzing various aspects of society, addressing social challenges, and contributing to the progress of communities. Sociology research plays a main role in diagnosing social complexities by providing insights into social structures, inequalities, and dynamics, ultimately contributing to informed policy decisions, social justice initiatives, and the improvement of overall societal well-being. Psychological research, on the other hand, enhances understanding of human behavior,

fostering mental health advancements, and contributing valuable insights to diverse fields such as business, education, and public policy. The use of modern technologies such as internet of things (IoT), data analytics, and Artificial Intelligence (AI) in social research represents a marked shift that has reinforced research methodologies. Modern technologies improved data collection methods to advanced analytical methods and global collaboration, technology has enabled researchers to explore social phenomena with greater depth and breadth. Through ethical and responsible application of modern technology, the research community can contribute to a more comprehensive understanding of societal issues and facilitate positive change on a global scale.

6. Legal Research

Legal research involves identifying, finding, and cite-checking information and applicable laws needed to support legal decision-making. The primary and secondary legal sources for this research include, but are not limited to, statutes, constitutions, regulations, and court orders. In most instances, the purpose of legal research is to find support for a specific legal issue or decision. Alternatively, legal research is to provide clients with accurate legal advice. Legal research is challenging because each step of this research, from defining research questions to synthesizing findings. The use of modern technologies in legal research has remarkably enhanced legal procedures. From enhancing data collection, improving analytical techniques, and promoting global collaboration, these technologies offer countless benefits. As modern technologies continue to develop, the legal community must remain proactive and adaptive in embracing innovations that contribute to the accuracy and efficiency of legal research.

Implementation of the university strategic plan has clearly defined the research targets, timelines, and key performance indicators for the five years 2018-2023. One of the goals of Deanship of Graduate Studies and Research (DGSR) is annual assessment of the effectiveness of its initiatives and support to achieve the objectives of the research strategy. The Office of Institutional Planning and Effectiveness (OIPE) also carries out its annual assessment of the effectiveness of the university research strategy.

Related Policies

- Research Ethics Policy
- Student Involvement in Research Policy
- Commercialization of Research Output Policy
- Research Strategy
- Graduate Studies and Research Policies and Procedures
- Research Publication Compensation Policy
- Research Conference Policy

Document History

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