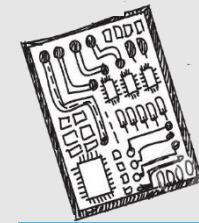
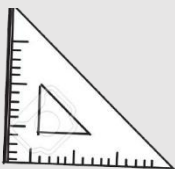
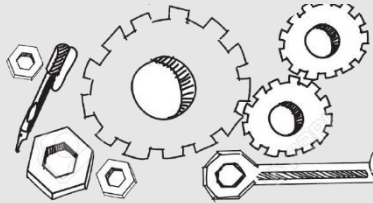
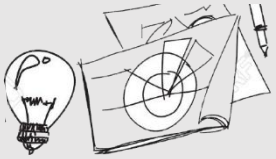
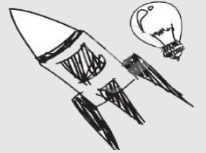
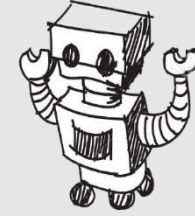


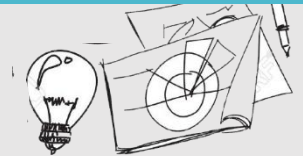


SATS

Newsletter



Seventh Issue SATS Newsletter 2019
Organized by:
Eng. Qamar Al-Tarawneh
School of Applied Technical Sciences
German Jordanian University



3RD SATS Open Day 2019



On Monday, December 30, 2019, the School of Applied Technical Sciences (SATS) at the German Jordanian University (GJU) held its third Open Day 2019, which aims to introduce the students with the importance of the specialties the school offers, and develop their innovative skills through highlighting the most prominent achievements by the both students and faculty members.

In the presence of the President of GJU Prof. Manar Fayyad, the Vice President Prof. Atef Kharabsheh, faculty members, and GJU's students, the Dean of SATS Prof. Safwan Altarazi welcomed the attendees and explained the idea of the Open Day in communicating with the students and colleagues scientifically and socially.

In addition, Altarazi conducted an introduction about the progress and achievements of the School since establishment until today in its three departments, Mechanical and Maintenance Engineering, Industrial Engineering and Mechatronics Engineering.

The program of the Open Day included a talk by Assistant Dean for Quality Affairs, Dr. Bashar Hammad where he presented the theme of the event, Technology of Education, explaining the definition of the concept and its importance in education.

Furthermore, Dr. Bashar focused on the Blended Learning method highlighting its models, tools, advantages, and challenges.

Furthermore, Dr. Bashar focused on the Blended Learning method highlighting its models, tools, advantages, and challenges.

The school organized several activities during the Open Day, where the most distinguished graduation projects, an internship in Germany, and Labs equipment were demonstrated.

Moreover, a group of SATS Alumni participated in a discussion panel to share their experience after graduation from the University, also, GJU's talented students performed a musical segment.

At the end of the Day, Prof. Manar Fayyad honored SATS' first-class students, best graduation project, outstanding research and teaching assistant, best poster, and the best talent in printing posters.

The Launch of the 2nd International Conference on Industrial Systems and Manufacturing Engineering



On Monday, November 11, 2019, Arab Potash Company (APC) Chairman Jamal Al Sarayreh, patronized the opening ceremony of the Second International Conference on Industrial, Systems and Manufacturing Engineering (ISME'19), that was jointly organized by Jordan Engineers Association (JEA) - Mechanical Engineering Branch and the German Jordanian University (GJU).

ISME'19 aims to address and connect current issues in research and applications in the various fields of industrial, systems and manufacturing engineering. Additionally, ISME19 will act as a major forum for researchers, engineers, industrialists, practitioners and students from all over the world. The forum opens the door for presenting the latest research results and exchanging cutting -edge ideas and practical experiences in conference related subjects.

Al Sarayreh stressed that JEA is always pioneering by supporting the country with human capabilities through preparing, motivating and pursuing them to serve the country. He indicated that the conference is an example of the JEA's efforts to improve and provide Engineers with the latest researches and concepts in the field.

JEA's President, Eng. Ahmed Samara Al Zoubi said that the conference had a wide participation locally and globally, it was attended by researchers from 12 countries to share their knowledge and research with Jordanian engineers from public and private engineering sectors, and to raise the level of general awareness of the latest developments in the fields of industrial, systems and manufacturing engineering.

The President of the German Jordanian University Prof. Manar Fayyad said that the University is working to provide quality education for students in the field of engineering sciences, administrative sciences and languages, beside strengthen the relationship between the Higher Education Institutions in Jordan as well as Germany.

She said that GJU supports scientific researches and development in a dynamic interactive environment with the industry, where the goal is to achieve the modernization and investment of human resources. In addition, to achieve economic and social development through qualified graduates who are specialized, multilingual, academically, and socially skilled and ready for the labor market.

The Chair of the Organizing Committee of the Conference, Dr. Safwan Altarazi- from the School of Applied Technical Sciences (SATS) at GJU, said that the conference features a rich program including 10 technical sessions with over 45 presentation, three distinguished keynote speakers, two specialized workshops, panel discussion, graduation projects poster session, and an exhibition.

In this year's conference, representatives from German universities and companies where invited with the support of the DAAD and GJU's Office for Industrial Links to emphasize on the importance of university-industry partnerships. In several workshops related to entrepreneurship, Industry 4.0, Logistics, and new approaches like Ideas Management, best practices and latest researches will be presented to actively engage the participants to foster such collaboration

Furthermore, Altarazi thanked all the members of the various conference committees for their dedication and collected efforts, besides all papers' and abstracts' authors, keynote speakers, workshops coaches, sponsors, panelists, graduation project students, and the JEA's conferences department and staff.

SATS Seminars'

SATS Organizes a Meditation Session for Faculty Members



On Wednesday, December 4th, 2019, the School of Applied Technical Sciences (SATS) at the German Jordanian University (GJU), held a "Mindful stretching, love and kindness meditation session" for SATS faculty members and teaching and research assistants, led by Miss Nisreen Khashman a meditation mentor with another mentor from the Thai Meditation Center.

The session was attended by the Dean of SATS Dr. Safwan Altarazi aims at allowing the participants to practice meditation for one hour, to strengthen the mind and relief the stress.

Miss. Khashman started the session explaining the importance of meditation; as meditation brings out clarity, positive energy, happiness and peace of mind, through meditation, we have a clear mind, inner peace, and lower metabolic rate. The trainer guided the participants to follow up on her steps in the session.

At the end of the session, the Dean praised the efforts of both the trainer and the participants.

SATS Presents a Conference Paper on "Office Mail Robot based on Festo Robotino"



As part of the School of Applied Technical Sciences (SATS) Seminar series, Dr. Nathir Rawashdeh presented a conference paper entitled, "Office Mail Robot based on Festo Robotino" to SATS' students and academics.

Dr. Nathir Rawashdeh presented the paper earlier at the North American Society for Engineering Education conference in Grand Rapids, Michigan.

The presented work is of a Mechatronics engineering graduation project performed on the Festo Robotino Indoor mobile robot platform. Mechatronics Engineering students have built a mailbox body on top of the Robotino and programmed it to serve as an office mail delivery robot.

The robot can be controlled from a PHP website. A Raspberry Pi minicomputer running Python code acts as an interface between the PHP commands and the Robotino's Robotino View program that is responsible for motor control and sensor reading.

The graduation project was performed by the Mechatronics engineering students, Hisham Alwanni, Nazih Sheikh Ali and Bader Al Afghani in 2016.

NanoLab Organizes Seminars for SATS Faculty



On March 27th, 2019 the School of Applied Technical Sciences (SATS) at the German Jordanian University (GJU), held a seminar about "Research and Innovation of Cardiovascular Measurements and Monitoring Techniques" and "Respiration Rate Monitoring Devices" organized by the Nanolab for SATS faculty members and teaching and research assistant.

The seminar was delivered by Prof. Dingchang Zheng and Dr. Stephen Hughes from Anglia Ruskin University, UK.

The seminar was part of the activities carried out under the umbrella of the project entitled "Inkjet-printed Respiratory Rate Wearable Sensors for infants: Towards Remote Monitoring Solutions for Low-setting Villages and Refugee Camps" as part of industry-academia partnership program supported by the Royal Academy of Engineering.

The seminar aims at introducing the participants to the research filed of cardiovascular measurements and respiration rate, the innovative techniques for measuring blood pressure and monitoring respiration rate.

In addition, an emphasis is put on the ongoing funded research projects, and future research.

At the end, the participants engaged with the speakers in an interactive discussion where many questions were answered.

SATS Seminars'

A presentation about "Departmental Credit Hour Cost" at GJU



On Wednesday, 3rd of April, the School of Applied Technical Sciences (SATS) at the German Jordanian University (GJU), held a presentation about "Departmental Credit Hour Cost" in the presence of the President of the German Jordanian University (GJU), Prof. Manar Fayyad. Eng. Aseel Ammari from SATS delivered the presentation.

The presentation aims at proposing a new approach for calculating the departmental credit hour cost, supported by the excel sheet calculations for the proposed approach.

Eng. Ammari, started by identifying principles of costing such as Cost Pools, Activity Based Costing (ABC) method, Joint Costs. Then, by applying the proposed method on SATS, she compared the traditional method vs the proposed method for calculating the departmental credit hour cost.

Eng. Ammari also, showed by using sensitivity analysis how changing current factors might reduce the overall cost, such as instructor to student ratio and class utilization.

In the end, the president praised her efforts, and with an Interactive discussion, many questions were answered.

Introduction lecture about "Latex Program for Scientific Writing" at GJU



As The School of Applied Technical Science (SATS) at the German Jordanian University (GJU) held an introduction lecture about "Latex Program for Scientific Writing".

This lecture was on 17th of April and attended by groups of lecturers, teacher assistants and researchers from different schools and research lab around the university.

Eng. Ala'a Alshubbak had discussed and presented different items about this international scientifically platform "latex". She introduced the audience to different layout of latex, way to make bibliographies and scientific citation, how to change between journals layouts and how to make scientific graphics, tables and equations using this program method.

A Lecture about "PMI certificates and PMIJO" at GJU



On Wednesday, March 20th, 2019, the School of Applied Technical Sciences (SATS) at the German Jordanian University (GJU), held a lecture about "PMI certificates and PMIJO" for SATS' Faculty members and Teaching and Research Assistants. Eng. Sandy Qarmout presented the lecture, along with Eng. Nidal Amr.

The lecture that was attended by the Dean Dr.Safwan Altarazi aims at introducing the participants to PMI different professional certificates. Also, giving a brief introduction about PMI and PMI Jordan chapter, and its main services.

Eng.Sandy presented the eight PMI certificates and highlighted the main differences between them. Besides, she mentioned the required professional qualifications, the format, and exams fees for each certificate.

In the end, the participants engaged with Eng.Qarmout and Eng.Amr in an interactive discussion where many questions were answered.

SATS Seminars'

Intercultural Quality Management Workshop



On Wednesday, 13th March, the School of Applied Technical Sciences (SATS) at the German Jordanian University (GJU), held a workshop about "Intercultural Quality Management: Challenges in QM when working in multicultural teams" by Prof.Dr.Ulrich Bauer, MA, from the University of Applied Sciences Kempton.

The five hours workshop was conducted with the presence of master students and teaching assistants from SATS. The main aim of the workshop was to have an in-depth understanding of how different cultures related to different places affect the concept of quality. The workshop started by identifying quality management, and how it becomes challenging when working with people from all over the world. The participants were divided into groups and given real-life cases to discuss. At the end, with an interactive discussion, the lecturer answered questions from the participants.

Creating a Learner-Centered Environment- why and how lecture



On March 6th, 2019 the School of Applied Technical Sciences (SATS) at the German Jordanian University (GJU), held a workshop about "Creating a Learner-Centered Environment- why and how" for SATS Faculty members and Teaching and Research Assistants (TAs). Mr.Maher Qabasi conducted the workshop.

The workshop that was attended by the Dean Dr.Safwan Altarazi aims at differentiating between learning and teaching, learning about the different personalities of students and encouraging the educator to motivate the students based on their differences.

The lecturer highlighted the challenges that emerged from the old teaching system, focusing on some elements that the classroom environment should adopt such as the skills, enthusiasm, and enjoyment through the learning process.

Mr. Qabasi prepared group-based activities, with motivating and challenging atmosphere. The activities focused on the fact that learning should be fun and learner-based.

In the end, the Dean appreciated the efforts of the lecturer and the participants.

Training Sessions on "Moodle" for SATS' Faculty



On February 20th and 27th, 2019 the School of Applied Technical Sciences (SATS) at the German Jordanian University (GJU), held two training sessions on "Moodle" for SATS' Faculty members and Teaching and Research Assistants (TAs), led by Eng. Omar Sawaeer from the Information System and Technology Center (ISTC) at GJU. The training that was attended by the Dean Dr.Safwan Altarazi and the Vice Dean Dr. Nathir Rawashdeh aims at introducing Moodle's features and activities to participants.

In the first session, Eng. Sawaeer, covered the main features of Moodle, how to manage profile and courses, the various activities the Instructor can accomplish through "Moodle" such as conducting and creating tests and assignments, tracking attendance, performing surveys and collecting feedback from the students, besides easing communication with the students.

In the second session, Eng. Sawaeer created a virtual course to allow the participants to practice "Moodle". Faculty engaged together with Sawaeer in an interactive discussion where many questions were answered. Dr.Safwan Altarazi praised the efforts of both the lecturer and the participants.

SATS Seminars'

Product Lifecycle Management Workshop at GJU



On March 17th and 19th, 2019 the School of Applied Technical Sciences (SATS) at the German Jordanian University (GJU), held a workshop about "Product Lifecycle Management" for SATS students.

The nine-hour workshop that was conducted by Prof. Dr. Sebastian Leibrecht from Hochschule RheinMain in Germany aims at introducing the students into various field of Product Lifecycle Management (PLM).

The workshop explains the background and gives examples for Product Data Management including Database Technology, Access Management, and Object-Oriented Data Models. Also, functional topics like Structure Management, CAD Integration, Lifecycle Processes, Digital Mockup, and Project Management are covered. An emphasis is put on Ecological Lifecycle Assessments.

In the end of the workshop, the participants were given a certificate of attendance signed by Prof. Dr. Leibrecht, the Dean Dr. Safwan Altarazi, and Dr. Sameer Al-Dahidi from the Mechanical and Maintenance Engineering Department.

"Technical writing" training for SATS Staff at GJU



On February 13th -14th, 2019 the School of Applied Technical Sciences (SATS) and the consultation and training center at the German Jordanian University (GJU) held training on "Technical Writing" for SATS Teaching and Research Assistants (TAs), led by Dr. Salem Ramdan.

The Ten-hour training aim at learning more about effective technical writing, its aspects, and how it differs from other kinds of writing. Also, to improve the participant's skills in assessing the writing quality of the student's laboratory reports.

The training subjects focused on technical letters, its components and format. The citation guidelines, and how to avoid plagiarism and ambiguity. In addition, Dr. Ramdan focused on the research skills, the scientific method and its steps.

At the end of the training, on a group of two, the participants were asked to grade sample of lab reports. Also, many questions related to effective technical writing were answered.

A Lecture on Public Safety and First Aid at GJU



On Thursday, January 31st, 2019, The School of Applied Technical Sciences (SATS) at the German Jordanian University (GJU) organized a lecture in public safety and first aid for the academic and administrative staff in the school, the technical support specialist and the research and teaching assistants.

The lecture aims to qualify the staff of the school in the field of first aid in order to deal with situations that may result from the nature of their work in lectures and engineering workshops.

Lieutenant Mohammed Ahmed in Civil Defense Department of Madaba, explained the ways and the means to rescue the injured, and fire extinguishing methods using fire extinguishers. Stressing the importance of awareness in public safety issues.

He also provided the primary treatment methods for the injured as a result of injury or accidental or sudden illness and prevent any other complications that may result from injury before the arrival of the competent ambulance teams, mentioning the details of the first aid supplies for many of the injuries such as cases of Choking, fractures, amputations, burning toxins and burns.

In addition to reviewing the main qualities of the paramedic like self-control and being calm. Stressing the need for a first aid box in each house.

At the end of the lecture that was attended by the Vice Dean Dr. Nathir Rawashdeh, a practical experience was presented in a case of fabricated suffocation.

SATS Network Meeting with Fachbereichstag (Department day) Mechatronik at Hochschule Heilbronn



On 16th and 17th of May 2019, the Department of Mechatronics Engineering (ME) of the School of Applied Technical Sciences (SATS) organized its Network Meeting in Heilbronn on the occasion of the annual German conference on Mechatronics.

Head of the Mechatronics Department Dr. Mutaz Ryalat and Exchange Coordinator Dr. Hani Mohsen attended the conference together with Network Coordinator Stefanie Kirsch and presented the SATS faculty as well as the study and research program to the participants. Hochschule Heilbronn invited 35 deans and head of departments from the field of Mechatronic and Robotics in order to discuss recent experiences and developments at their home universities, 10 of them were active SATS network members.

The main topic of the conference was Digital transformation in Engineering education with several speakers such as Dr. Jonas Wernz (VDI), Prof. Dr. Peter Eichinger and Prof. Dr. Bernhard Höfig (HS Aalen), Prof. Dr. Andreas Daberkow, Prof. Dr. Nicolaj Stache and Prof. Dr. Tim Fischer (HS Heilbronn).

Two GJU students attended the SATS network meeting and discussed their experiences in Germany and their set of courses together with the Jordanian and German professors as well as the supervisors Prof. Dr.-Ing. Ansgar Meroth and Stefanie Petrik from HS Heilbronn. Hochschule Aalen offered to invite more GJU students and encouraged them to participate in the [Makeathon](https://www.youtube.com/watch?v=ur0_lfMW5NY) at Gran Canaria https://www.youtube.com/watch?v=ur0_lfMW5NY.

Furthermore new network members were interested in GJU's distinguished mobility programs such as Flying Faculty, Train the trainer, Erasmus Plus, Student Group Mobility and Arabic Summer Course. Dr. Mutaz and Dr. Hani started further planning with Prof. Dr.-Ing. Ralph Lindken (HS Bochum), Prof. Dr.-Ing. Martin Loeffler-Mang (HTW Saar) and Dipl.-Ing. Ansgar Eckert (FH Würzburg-Schweinfurt) who were interested in further collaborations with the School of Applied Technical Sciences.

SATS Network meeting at Hochschule Aalen and Hochschule RheinMain



Beginning of July 2019 the Dean of the School of Applied Technical Sciences (SATS) Dr. Safwan Altarazi together with the Exchange Coordinator for Industrial Engineering Dr. Saleem Ramadan and the Exchange Coordinator for Mechanical and Maintenance Engineering Dr. Sameer Al-Dahidi attended two Network meetings in Germany.

The SATS delegation accompanied by Network Coordinator Stefanie Kirsch met their German partner universities from the same faculties and discussed further cooperation in student exchange, co-teaching and joint research projects. During the meeting at HS Rhein-Main Rüsselsheim, Dr. Sameer Al-Dahidi could strengthen the Erasmus Plus cooperation, addressed new Flying Faculty professors and received positive feedback of his students in the German Year.

With Hochschule Aalen, Dr. Saleem Ramadan could discuss new teaching concepts such as flipped classroom and scheduled project teaching where GJU students work on their project in teams under the guidance of a professor before presenting the results of their project management to a broader audience.

Target-driven discussions led to several achievements for the School of Applied Technical Sciences, e.g. new agreements with TU Braunschweig, DHBW Karlsruhe and Hochschule Offenburg or an increase in number of seats for SATS students going to Hochschule Fulda and Hochschule Kempten as well as the opportunity for SATS staff to join research and Industry 4.0 laboratories at Hochschule Aalen and FH Würzburg-Schweinfurt.

The Dean Dr. Safwan Altarazi took the opportunity to promote the Jordan Engineers Association JEA conference held on November 2019 in Amman and invited all network members to join the next SATS network meeting 2020 held at GJU. Hopefully, many partners will follow this invitation.

Conferences participation



InVenT-2019

Dr Rafat Al-Waked participated in the 4th International Conference on Viable Energy Trends (InVenT-2019) during the period of 26-28 of April 2019, at Istanbul-Turkey. Dr Al-Waked presented the paper entitled "Performance of Energy Recovery Ventilators in the MENA Region" Co-authored with Eng Diala Bani Mostafa of SATS. Furthermore, Dr Al-Waked chaired session F of the conference.



5th International Conference on Atomic and Nuclear Physics

Dr. AbuShams attended the "5th International Conference on Atomic and Nuclear Physics" that held in Chicago, USA from 2-3/8/2019.

He presented his paper "Effect of He/H defects in W during irradiation: An atomistic study".



REM conference May, 2019

Eng. Mohammad Hamdan Garibeh participated in REM conference May, 2019 in Austria with the paper title (A Potential Field Simulation Study for Mobile Robot Path Planning in Dynamic Environments).

Conferences participation



Electrical and Electronics Engineering (ICEEE)

Dr. Bashar Hammad participated in 2019 6th International Conference on Electrical and Electronics Engineering (ICEEE) during the period 16-17 April 2019, at Istanbul- Turkey. Dr. Bashar Hammad presented the paper entitled "Design and Implementation of a Cylindrical Persistence of Vision Display".



Proceedings of the 5th World Congress on Mechanical, Chemical, and Material Engineering (MCM'19)

Dr. Bashar Hammad participated in Proceedings of the 5th World Congress on Mechanical, Chemical, and Material Engineering (MCM'19) during the period 15-17 August 2019, at Lisbon, Portugal. Dr. Bashar Hammad presented the paper entitled "Buckling of Mechanically Coupled Microbeam Resonators".

The 29th European Safety and Reliability Conference (ESREL 2019), Hannover, Germany | 22 - 26 September, 2019

- The paper entitled "Fault Prognostics in Presence of Event-Based Measurements" has been presented and accepted for publication.
- The best poster award of the presented paper at ESREL 2019 has been obtained. <http://www.lasar.polimi.it/>
- Dr. Al-Dahidi is a part of the ESREL Technical Committee since 2017. <https://esrel2020-psam15.org/tpc.html>

Trainings

Training course related to smart grid technology

Dr. Hani Muhsen, Dr. Mutaz Ryalat, and two students from the Energy department participated in the training course related to smart grid technology at the University of Newcastle from 2 to 13 September 2019. The covered topics covered were:

- Smart Grids: drivers, challenges and regulatory issues
- Renewable energy and distributed generation and its effect on the grid
- Low carbon loads and their impact on the grid
- Smart metering
- Demand-side response
- Electrical energy storage: Grid applications
- Active network management and automation
- Advanced power flow management
- Advanced voltage control in a network
- Decentralized control and Microgrid

Advanced Teaching and training on Smart grid and Grid Integration of Renewable Energy Systems

Dr. Sameer Al-Dahidi ,Dr. Bashar Hammad, and Dr. Hani Muhsen attended a Capacity Building Course entitled “Advanced Teaching and training on Smart grid and Grid Integration of Renewable Energy Systems” (AT-SGIRES project funded by the European Union through the ERASMUS+ Programme) organized by the University of Cyprus in the framework of EU-funded project AT-SGIRES in Nicosia, Cyprus, February 4-8, 2019. The certificate of attendance and photos are attached.

Training course related to smart grid technology and innovative renewable energy resources in University of Cypru

Dr. Hani Muhsen participated in the training course related to smart grid technology and innovative renewable energy resources in University of Cyprus from 4 to 15 February 2019. The aim of this training course is to describe the significance of smart grids and the use of information communication technologies (ICT) to modernize the existing electrical network to deliver energy reliably and efficiently. The course defines various aspects of smart grid technology, including a technical overview of the architecture including renewable technologies and storage, networking, transmission, and distribution. The course examines different deployment issues, statutory and regulatory requirements, demand shaping and energy management aspects. Also, to present the concept of emulating the power grid and hardware in the loop (HIL) for the integration of new components (such as inverters and photovoltaic modules) through commercially available tools such as Matlab Simulink, and DigSILENT.

Trainings

Arab Artificial Intelligence Summit (AAIS)

Prof. Safwan Altarazi, Dr. Jumana Abu-Khalaf, Dr. Mutaz M. Ryalat, Dr. Sameer Al-Dahidi ,Dr. Hisham ElMoaqet, Dr. Hani Muhsen, and Eng. Mohammad Garibeh attended two days of Arab Artificial Intelligence Summit (AAIS) that was conducted at the King Hussein bin Talal Convention Center – Dead Sea in 29th and 30th October, 2019.

International week at the University of applied sciences Würzburg - Schweinfurt in Germany.

Eng. Emad Al-Zubi participated in the international week at the University of applied sciences Würzburg - Schweinfurt in Germany. Where he taught the course of Production planning and Inventory control during the period from (17.05.2019 – 24.05.2019).

Train the Trainers: Amani Al Bdour, FHWS-Schweinfurt-2019



Time	5/7/2019-5/8/2019
Place	University of Applied Sciences Würzburg-Schweinfurt (Hochschule für angewandte Wissenschaften Würzburg-Schweinfurt)
Address	University of Applied Sciences Würzburg-Schweinfurt, Ignaz-Schön-Straße 11, 97421 Schweinfurt
Purpose	Training program on material flow topic and day-to-day queue building systems using plant simulation(SIEMENS) software Demonstrate how difficult some process steps are for older workers by performing specific tasks wearing an age simulation suit
Contact Persons	Michèle Ullerich, Christine Barthelme, Julia Römisch

Human of SATS

SATS Faculty

I reached year twelve “توجيهي” without having a clue about engineering. All I knew that I wanted to attend Yarmouk University to study Computer Science. I ended up studying mechanical engineer and do not ask me why. Just when I joined Petra Hitachi factory, specialised in manufacturing air conditioning equipment, for my summer internship I realised that people expected me to be a mechanical engineer regardless of my own perceptions



Dr. Rafat Al-Waked

A guy who spend his time playing volleyball and basketball needed to step-up to be a Mechanical Engineer. Are you kidding me? I started working as a technician assistant at the production line, did not complain about the nature of tasks given to me and I asked many questions regarding the How's and the Why's. I read their technical instructions, I wrote reports and communicated my department needs to other departments within the factory. After eight weeks I was offered a mechanical engineer position at the factory once I am done with my degree.

Really, what is engineering all about? I am more inclined to think that engineers work to fix the world to be a better place for living while taking the blame for doing that. If you are one of those who have a passion towards solving others problems for their own comfort and living with the blame for that, you have a potential to be an engineer. As an engineer, your professional life is based on a team structure. No engineering project is achieved by one man. One thing I learned well from sport is that no matter which team member did good,/bad, the team as a unit wins/looses. You need to be a good team player to sustain a successful engineering profession. These skills could be built at your neighbourhood while playing with your friends. You do not need to attend a university to develop these skills.

Attending the right school and university paves the line for you to learn science, math, physics and engineering technology. Having grasped these fundamentals, you are on your way to enter the engineering world. This is just the beginning. To have a sustainable career as a professional engineer, you need to work hard on keeping yourself up-to-date with the latest in the field. Otherwise, you will follow NOKIA footsteps to failure

Human of SATS

SATS Faculty

“When I was four, I hammered my first bicycle to pieces, and when my father asked me why I did that, I told him “I was fixing it.”



Prof. Ziyad Masoud

My curiosity to know how things work got me into a lot of trouble in my early days. When I was a kid, I used to take a part my toys to see how they work and try to make them run better or faster and sometimes try to build new toys out of the ones I broke. My first job as an engineer was at a corporation that specializes in custom solutions for pharmaceuticals factories. I was in charge of design and fabrication of custom machines. The first machine I designed was a medicine-box counter. I built the first prototype out of LEGO parts. The machine was a success and many were sold. The greatest invention I made was a control system for container cranes. The idea struck me while I was toying with a ball on a string.

Inventions are the toys of inventors. Do not underestimate the power of curiosity. I believe that nothing is impossible. If you can't figure it out now, you will if you keep trying. If you don't, somebody else will. Don't give up no matter how long it takes."

#News

Graduate students advising: Dr. Sameer Al-Dahidi is co-supervising ONE Master student at Department of Mechanical Engineering, The University of Jordan since January 2019. The Master thesis aim at developing advanced and efficient computational methods and soft computing techniques for renewable energy production predictions.

Journal editorial: Dr. Al-Dahidi is a guest editor of a Special Collection on “Advances in Soft Computing Techniques for Computational Engineering” in the Advances in Mechanical Engineering (AIME) Journal since March 2019.

<https://journals.sagepub.com/page/ade/call-for-papers/special-issues/soft-computing-techniques>

New SATS Faculty & Staff Members



Dr. Lena Abu-El-Haija is an Assistant Professor in the Industrial Engineering Department at the German Jordanian University. She obtained her PhD degree in 2019 from North Carolina State University. Dr. Lena is specialized in Operations Research methodology including stochastic processes and simulation



Sura Al-Hanouti a research and teaching assistant at German Jordanian University, In June-2019 she had her bachelor degree from Jordan University of Science and Technology in Industrial Engineering and graduated with a distinguished rating. Also she is the first of her regiment. she had a TV interview about her graduation project "What's beyond minor stops" at Hikma factory as one of the distinguished projects.



Duha AlKurd, a new research and teaching assistant at German Jordanian university.

In February 2019 she got a bachelor degree in industrial engineering from Jordan university of science and technology with a distinguished rating and a GPA of 4.00.

She do believe that "The only way to success is to continue strongly until the end" .

New SATS Faculty & Staff Members



Qutaiba Al-twara received B.S. in industrial engineering from University of Jordan in 2016, the graduation project was about studying the effect of adding glass particles with different sizes and amount to Aluminum on mechanical properties. He has experience in many industries through working in many companies. His experience covers: 1) Training in ARAL company which is specialized in production of Aluminum sections using extrusion process. 2) Working in PIC Which is specialized in plastic industry (Blown film extrusion, injection molding, Blow molding. 3) Working in JAMCO which is one of KADDB's group that is specialized in production parts through using milling and turning CNC machines. In JAMCO he worked as a production engineer. his tasks were drawing parts from scratch, reverse engineering, Pricing, generating g-code using CAM software, drawing sheet-based product, set a processes plan through which the raw material has to pass to get the final product.



Roqaya Al-Natsheh, A research and teaching assistant at German Jordan University. She obtained her bachelor degree in industrial engineering from the University of Jordan in 2015. Her graduation project was generating a MATLAB code to solve nonlinear nonconvex programming problems using Reformulation Linearization Technique (RLT). Roqaya worked as a trainee in different companies such as Istishari hospital, Alsharq factory, and the ministry of industry and trade. Through which some tasks has been assigned to her such as working on productivity and rightsizing, forecasting and managing inventory. She also was employed on a full time job in Universal kitchen as well as a telecommunication company in Amman.

Visits



Visit to Robinson Industries company

Robinson Industries, Inc., designs and manufactures plastic packaging since 1940. The Company provides plastic pallets, shipping containers, and injection molded designs. Robinson Industries distributes their products throughout the United States. Dr. AbuShams made a site visit to Robinson industries company, a leading manufacturer in plastic packaging. The factory tour gives an insight observation of products being manufactured and processes at work.

Dr. Ala Hijazi Visit to Munich Bundeswehr University



Between 21/6/2109 and 18/9/2019 Dr. Ala Hijazi visited the Institute of Fluid Mechanics and Aerodynamics at Munich Bundeswehr (Armed forces) University. The Institute of Fluid Mechanics and Aerodynamics is led by Prof. Christian kähler and it is one of the internationally recognized research centers specialized in optical measurements techniques (such as PIV, PTV, PSP, LIF, etc.). During the visit, Dr. Ala has worked on a research project entitled "Experimental Study of the Fluid-Structure Interaction for 2D Wing Model at Transonic Conditions" and the funding for the visit was provided through a DFG sponsored program. In addition, during this visit, Dr. Ala also met with professors from the different engineering departments and the International Office director and discussed the establishment of partnership between GJU and Munich Bundeswehr University. The university welcomed such partnership and the MOU should be signed in the near future.

Accreditation Visit to the Royal Jordanian Air Force College



On 30/10/2109 Dr. Ala Hijazi headed an accreditation team from the Accreditation and Quality Assurance Commission for Higher Education Institutes on a visit to the Royal Jordanian Air Force College. The purpose of the visit was to evaluate the newly established "Aviation Science" and "Air surveillance and Navigation" B.Sc. programs in order to grant them special accreditation. During the visit, the accreditation team evaluated the study plans, met the college officials and faculty members, and inspected the different facilities of the college such as the labs, workshops, air traffic control tower simulator and flight simulator.

Congratulations to SATS Staff

PROMOTIONS

SATS Family would like to congratulate our professors to their promotions:



Dr. Safwan Altarazi
Professor



Dr. Rula Allaf
Associate Professor



Dr. Jumana Abu-Khalaf
Associate Professor

AWARDS



The Accreditation and Quality Assurance Commission for Higher Education Institutions (AQACHEI) in Jordan had awarded the certificate of Certified Higher Education Quality Assessor to three of German Jordanian University's (GJU) academic staff members.



Dr. Bassam Maali from the School of Management and Logistic Sciences, Dr. Bashar Hammad from the School of Applied Technical Sciences, and Dr. Murad Samhoury from School of Applied Technical Sciences, had attended a training held by AQACHEI in September 2019. The training aimed to qualify academic staff members from Jordanian universities to participate in evaluating the institutional and programs quality in the Jordanian universities.



Dr. Lena Abu-El-Haija won the INFORMS-SIM Diversity award at the Winter Simulation Conference 2019. The award was designed to improve outreach to young researchers in simulation. Dr. Abu-El-Haija was one of three recipients out of 37 candidates that applied for the award, and the award amounted to \$500.

SATS Team Repairs and Refurbishes the Nau'ra

The Nau'ra (Noria – water wheel machine) is one of the icons of the GJU campus. The Nau'ra located in the yard of Building C is a full-scale replica of the famous Norias of Hama. It was built and erected by a company from Syria and it was commissioned in 2011. Due to the lack of proper periodic maintenance, the Nau'ra stopped working in 2017 after going out of alignment and leaning against the sidewall. Several attempts were made by GJU admiration to find a professional company that is able to fix the Nau'ra and return it to its operational condition, but that did not work out mainly due to the high cost and lack of guarantee for the repair job. In November 2018, a team was assembled at SATS to evaluate the condition of the Nau'ra and determine if it can be repaired. The team was led by Dr. Ala Hijazi and it included Eng. Emad Al-Zoubi (the SATS Workshops director) and a couple of technicians from the Workshops.

The evaluation of the Nau'ra's condition revealed that:

- The wood being used for the diagonal members of the Nau'ra structure is very weak and it became worn-out or completely broken at many locations.
- The Nau'ra axel has same erosion damage and cracks.
- Some of the wooden wedges used for adjusting the alignment has come-out causing the Nau'ra to hit the sidewall and that broke some of the Nau'ra's diagonal members.

Based on their technical evaluation, the SATS team decided to undertake the job of repairing and refurbishing the Nau'ra using the capabilities available at SATS Workshops. After getting the approval from GJU administration and obtaining the required wood and materials, the work started by the end of March 2019 and it continued for about three months. The work was done under the direct command and supervision of Dr. Ala and Eng. Emad, with the involvement of all Workshops' technicians and in particular Mr. Yousef Qaddomi and Mr. Laith Fraij. Though it was a very challenging job, the SATS team succeeded in finishing the work on time and with very moderate cost. A thorough and methodological repair and refurbishing job took place where that included:

- Aligning and adjusting the inclination of the Nau'ra and inserting the alignment wedges in place.
- Protecting and strengthening the Nau'ra's wooden axel and its surrounding area using a heavy-duty metallic sleeve, flat metallic plates and wooden doublers.
- Replacing all the external diagonal members (24 members) and half of the internal diagonal members (8 out of 16 members), where the new members are made of hardwood and are fixed in place using bolts and nuts.
- Replacing all the missing and broken pieces of the Nau'ra's body.
- Affixing heavy-duty nylon bags inside the water chambers to eliminate water leakage from chambers before they reach the top position.
- Doing a complete paint job for the Nau'ra with a primer protection layer.

Finally, after 700 work hours by the SATS technicians, on 17/6/2019 the Nau'ra started working again after being out of service for about two years. Interestingly enough, the total cost of the materials and consumables used to repair the Nau'ra was only 1400 JD. Following is a quick synopsis of the main materials used in this work:

- 800 kg of hardwood.
- 42 kg of steel tubing and plates.
- 40 m long of threaded rods.
- 10 kg of screws, nuts and washers.
- 8 kg of paint and primer material.



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