

SATS Newsletter

Eighth Issue SATS Newsletter 2020

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School of Applied Technical Sciences (SATS)

German Jordanian University (GJU)

German accreditation for SATS

The School of Applied Technical Sciences (SATS) is currently preparing for the German accreditation of four of its current programs:

- B.Sc. in Industrial Engineering (IE)
- B.Sc. in Mechatronics Engineering (ME)
- B.Sc. in Mechanical and Maintenance Engineering (MECH)
- M.Sc. in Master of Engineering Management (MSEM)

The German accreditation policy was introduced as a response to the Bologna Process and transition to a new degree structure. By achieving this accreditation, both undergraduate and graduate programs offered by SATS will gain international certification and will become fully accredited throughout Europe.

With the help of the Vice President, Prof. Dr. Ralph Roßkopf, the accreditation committee at SATS: Prof. Dr. Safwan Altarazi (Dean), Dr. Iyas Khader (Assistant Dean for Quality Assurance & Accreditation), Dr. Lena AbualHija (committee member - IE Dept.), Dr. Mariam Wajdi (committee member

-ME Dept.) and Dr. Bashar Hammad (committee member - MECH Dept.) in addition to teaching assistants: Eng. Amani Albdour, Eng. Sura Alhanouti and Eng. Haneen Aboud are working closely with the Department of Quality Assurance (Dr. Murad Samhouri and Eng. Aya Alofi), the Registration Department, the Office of Industrial Links and various other bodies and departments at GJU to prepare the study plans and collect and compile the information required to complete the accreditation procedures.

The accreditation agency ASIIN visit is planned on 14th-16th June 2021.

Dual studies program in SATS

Dual studies (DS) is a unique bachelor track at which aims to combine theoretical studies with practical experience. The program emerged due to the need for graduates who are able to apply their knowledge for problem solving in real world, and who are better trained in soft skills, which are trained best in real life situation.

On September 10, 2020, a number of first year students from Industrial Engineering (IE) major completed their first practical phase of their

dual studies. Their first experience with the program was under difficult circumstances. However, the students as well as the partner companies show their commitment, enthusiasm and dedication, as they understand the seriousness of this unique educational form. Four different partner companies have joined the program in 2020:

Umniah, RAMZ for specialized transport, Al Etihad bank and Dar Al Hai

Without exception, all partner companies noticed a positive development in the students' personality as well as an overall improvement on professional level.

Dima Alghoul, a DS student from IE department, take us through her journey in DS practical semester at Uminah and what she found most valuable about the program.

"Hi, I'm Dima! Some of you might know me some not yet, I'm a second year industrial engineering student at GJU, here to share my experience with the Dual Studies Program.

Honestly, when I first joined I was nervous thinking of how stressful it might be for a 1st year, but by the end of my first dual semester, I realized that it was one of the best decisions I've ever made! The DS gave me a chance to experience life after graduating from Uni earlier, without neglecting my studies. I can't tell you how excited I am now to finish my studies and go to the real world! Being in a work atmosphere had definitely enhanced my intellectual skills and cultivated the principles of work and commitment. They've also taught me how to intensify my computer skills and assigned me with tasks relatively. I was introduced to the Telecom market, worked on pre and post evaluations, products comparisons and much more! Regarding my studies, I had the same lectures as my fellow students and studying at Umniah was never a burden for my supervisor or my teammates.



They were always considerate and helpful too!

I can't but express my utmost gratitude to the DS team and my department Dean Professor Safwan Al-tarazi for accepting my application and providing me with this great experience, the amount of personality building and teamwork can't even be put into words. I am proud to be part of this program and I advise all students to join this amazing experience, I promise you, you won't regret it!"

After this initial success, the SATS is looking forward implementing this program in all bachelor programs. The current plan is to enroll the dual study track in MECH department for the academic year 2020/2021.

Conferences participation

MechaniTek 2020:

Dr Al-Waked has participated at the 1st International Conference on Mechanical, Aeronautical, and Industrial Engineering Technologies (MechaniTek 2020), Remotely, Irbid, Jordan, 2020. He contributed two papers titled:

- 1- CFD Simulation of Ducted Mechanical Ventilation for an Underground Car Park
- 2- Enhancing the Drying Process of Coated Abrasives

Bearing World 2020, 19 – 23 October, 2020

Dr. Iyas Khader participated in the Bearing World 2020, during the period of 19 – 23 October, 2020. Dr Iyas Khader presented the paper entitled “The influence of mechanical stresses on the diffusion and accumulation of hydrogen in a cylindrical roller thrust bearing”

12th International Renewable Engineering Conference (IREC2021)

Prof. Alaaldeen Al-Halhouli and Dr. Hani Muhsen participate in the 12th International Renewable Engineering Conference (IREC2021) as a conference chair and a publication chair. IREC2021 is an international conference organized by Middle East University, Amman, Jordan, that will be held on 14th and 15th of April 2021 at Middle East University, Amman, Jordan.

The IREC2021 is technically co-sponsored by IEEE Power & Energy Society. All accepted and presented papers will be published and indexed by IEEE Xplore. The conference topics covered related topics to smart grid and renewable energy resources.

The 30th European Safety and Reliability (ESREL 2020) Conference and the 15th Probabilistic Safety Assessment and Management (PSAM 15) Conference, Venice, Italy | 1 - 5 November, 2020

Dr. Sameer Aldahidi participated in The 30th European Safety and Reliability (ESREL 2020) Conference and the 15th Probabilistic Safety Assessment and Management (PSAM 15) Conference during the period of 1 - 5 November, 2020. Dr. Al-Dahidi presented a paper entitled “An Ensemble of Echo State Networks for Predicting the Energy Production of Wind Plants”. Also, Dr. Al-Dahidi was the Track Leader (Guest Editor) to coordinate the peer review process for the papers submitted to the track “Energy Industry”. In fact, Dr. Al-Dahidi has been a part of the ESREL Technical Committee since 2017.

Trainings & Workshops



Training Sessions on “Moodle” for SATS’ Faculty

On 12th of May 2020 and after the government decision on handling final exams online, The School of Applied Technical Sciences (SATS) held an online training session on “Moodle” for SATS’ Faculty members, led by Eng. Eng. Abdallah Albashir as a member of SATS distance learning committee.

The session was mainly about creating question banks to be used on the exams and how to set up exams. Eng. Albashir mentioned that he started handling quizzes and exam on Moodle (eLearning) since couple of years ago, so he gained experience in this matter. The workshop was interactive and explained the previous mentioned topics in details; Dr.Safwan Altarazi praised the efforts of both the lecturer and the participants.

Introduction to Aerosols Measurement Methods Industry Guidance and Regulations Webinar

Dr Al-Waked has participated in the workshop entitled “Introduction to Aerosols Measurement Methods Industry Guidance and Regulations Webinar” held by TSI Instruments Ltd on the 7th of October 2020.

A training session on smart grid technology for Jordanian Stakeholders

Dr. Hani Muhsen and Prof. Alaaldeen Alhalhouli conducted a training session on smart grid technology for Jordanian Stakeholders on 11-12, Nov, 2020. The training is targeting dif-

ferent groups of stakeholders and covered the smart grid’s technical characteristics, developing smart grids for a low-carbon future, microgrids, and distributed energy future.

Bootcamp organized by Phi Science Institute:

Dr. Sameer Al-Dahidi attended an 18-hour online AI Bootcamp organized by Phi Science Institute, in collaboration with The Royal Scientific Society (RSS) and given by Zaka Company from Lebanon, March 27-30, 2020.

Scientific seminar organized by Arab Union for Sustainable Development and Environment

Dr. Hani Muhsen participated in a scientific seminar as an invited speaker; the seminar was held online and organized by Arab Union for Sustainable Development and Environment on 12 of Dec 2020. The presentation of Dr. Muhsen was entitled “Smart Grid Technology”, where the seminar was entitled as “Innovation in Renewable Energy Resources.”



Training sessions conducted by OPAL-RT company

Dr. Hani Muhsen participated in training sessions conducted by OPAL-RT company from 30th Nov 2020- 2nd Dec 2020 on the testbench installed in the smart grid lab under the umbrella of the ATSGIRES project sponsored by Erasmus+. The training topics focused on real-time simulation using RT-LAB and Real-Time Simulation of Power Systems with ARTEMiS

Meetings

Online meeting with Master of Science in Engineering Management (MSEM)

On April 2020, SATS organized an online meeting with MSEM students. Dean of SATS Prof. Safwan Altarazi and Prof. Riad Alaomar attended the meeting and discussed with students, in an open discussion, multiple academic topics including: the requirements for the two tracks available in MSEM-thesis track and comprehensive exam, available research topics with the faculty members of the IE department, German flavor of the program, etc.

Introductory session for local field training

The Industrial links and training committee at SATS held an introductory session for local field training in the presence of the school Dean Prof. Safwan Altarazi, Dean's Assistant for Industrial Links and Training Dr. Nidal Shwawreh and the local training officer Eng. Diala Bani Mustafa. The focus was on the importance of local training in building and refining students' capabilities in the practical field and exposing students to the local market to understand the needs.

Training regulations and procedures that must be followed were clarified and a tutorial for the existing information base and the mechanism for filling out the required forms were held.

SATS German partner universities Network Meeting

On 26 November 2020 The School of Applied Technical Sciences (SATS) organized a virtual

Network Meeting with German partners for all three majors. The Dean, Prof. Safwan Altarazi, hosted the meeting and gave a presentation about the university and the school programs, faculty, number of students and German year statistics.

The Vice president, Prof. Ralf Roskopf attended the meeting and gave a short speech at the beginning. The International office director, Ms. Stefanie Kirsch as well as the school's vice-dean Dr Mutaz Ryalat, exchange coordinators; Dr. Sameer Aldahidi, Dr. Mohammad Abu Shams and Dr. Sahar Qadan and the exchange officer, Eng. Hala Qitouqa were present in the meeting, also.

Thirteen representatives from SATS German partner universities attended the meeting; each gave a short introduction about their university and their experience with GJU students. The main topic discussed was the digitalization and the effects of COVID-19 on the teaching and learning process. Moreover, the participants discussed further collaboration in the fields of joint research, student exchange and staff exchange. Further focused meetings were suggested to be held for each department individually.

Two SATS graduate were also invited to join the meeting. They shared their experience in Germany and joined the discussions.

It is worth mention that in 2020, SATS had three new partner universities; FH Bielefeld, FH Darmstadt and Ulm TH.

Visits

Visit to Center of Innovation and Entrepreneurial Excellence, Al Hussein Technical University (HTU), King Hussein Business Park, 25 June 2020.



- Visiting Personnel: Eng. Abdallah Albashir, Eng. Qutaiba Altouri, Eng. Amani Albdour, Machining Technician. Samer Kasht, Machining Technician. Nader Qatuni, Machining Technician. Bahjat Abu Shaeireh, Welding & Blacksmithing Technician. Khader Amro, Welding & Blacksmithing Technician. Mohammad Al Jayousi.

- Visit Objectives: to gather information about the center's capabilities of manufacturing, to obtain information about the center's available machinery and equipment, to gather information about the center's 3D printing capabilities, to gather information about the center's interaction with customers (including undergraduates and postgraduate students, business entrepreneurs)

- Sequence of Visit: 1 – Introduction to 3D Printing section, including 3D Printers, Drafting Desktop stations & a brief introduction to some students using the section's capabilities for engineering projects, with a questions and answers segment in the end. 2 – Introduction to Carpentry & Wood – Working Workshop, Including Wood CNC router & Conventional Forming Machines & Tools, with a brief introduction to some projects and work

pieces made and assembled, with a questions and answers segment in the end. 3 – Introduction to Metal Forming workshop, Including CNC Milling Machine, Lathe – Mill Combo Machines and conventional hand tools, with a brief introduction to workshop capabilities and a questions and answers segment in the end. 4 – Introduction to Laser Engraving Section, a brief introduction of the Laser Engraving Machine, with annotations of types of materials suitable to be engraved using that machine, also with a brief questions and answers segment in the end. 5 – Introduction to Cutting – Tool Engraving Section, Including Desktop Engraving Machines, with elaborations of cutting tools used and CAM software used (Fusion 360), with a questions and answers segment in the end. 6 – an All – Round final tour of the center's products & projects, with detailed briefings on how the products were made and assembled and the machines & sections used in each production process, with a final questions and answers segment in the end.

An additional tour of the Engineering Workshops at the Al Hussein Technical University was completed afterwards, with the technical staff of (HTU) providing elaborate information about the sections of the workshops, including the Conventional Metal Machining section, the Heating, Ventilation and Air Conditioning (HVAC) Section, the Plumping and Internal Mechanics Section and the Metal Casting Section. Information about every section was kindly provided, with a brief narrative of the establishing of the Workshops and the academic context delivered to undergraduate students at the university, with a questions and answers segment in the end.

GJU Visit to King Abdulla II Ibn Al Hussein School for Excellence, Madaba



On Monday March 9, 2020, The School of Applied Technical Sciences (SATS) organized a school visit to Madaba's King Abdullah Ibn Al Hussein School for Excellence. Eng. Noor Arabyat from SATS presented the school along with two students Fadi Wakelh and Nadeem Mazahreh. The Public Relations and Marketing Department presented by Mrs. Amani Al Rosan supported the visit.

The visit coincides with GJU and SATS vision



of supporting the local community, and raising the student's awareness of the different engineering programs of SATS. In details, the visit aims at introducing SATS to the students, along with focusing on the school programs, facts, activities and the school laboratories with the used software's. Furthermore, giving a brief introduction about the students' exchange structure and German year. At the end of the visit, the school students presented their project "Smart Center".

German group visit to SATS



On Tuesday, January 28, 2020, a group of German professors and students had visited SATS. The Dean Prof. Safwan Altarazi had welcomed the group and delivered a presentation about the school of SATS, its departments,

and Labs. Then the dean took the group on a tour of SATS Engineering workshops, and labs. The tour that had been accompanied by Eng. Noor Arabyat started by visiting the Engineering workshops. The technicians had shown the various products the students accomplished through the workshop course.

Then they visited several labs including the Materials Science Laboratory, the Automatic Control Systems Laboratory, the Industrial Automation Laboratory, and the Manufacturing Laboratory. The engineers gave a brief presentation about their labs and answered the student's questions.

Prof. Ziyad Masoud and Dr. Ra'fat Al-Waked were ranked among top 2% of scientists in the world according to Stanford University



SATS's Academic Member elected as Chapter Chair for the IEEE Jordan Section EMB18 Society Chapter

Dr. Hisham ElMoqet, Head of Mechatronics Engineering (ME) Department in SATS had been elected as Chapter Chair for the IEEE Jordan Section EMB18 Society Chapter. IEEE is the world's largest professional association advancing innovation and technological excellence for the benefit of humanity serving more than 400,000 members in over 160 countries. IEEE depends upon its local geographic units, and the volunteer leaders of these units, to implement the strategic direction of IEEE throughout the world.



Guest Editor

In June 2020, Dr. Sameer Al-Dahidi was selected as a lead guest editor of a Special Collection on "Renewable Energy Sources for Electrical Power: Reliability Assessment, Condition Monitoring, Prognostics and Health Management, Production Prediction".

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



Dr. Wael Al-Kouz
Professor



Dr. Sameer Al-Dahidi
Associate Professor



Dr. Ahmad Al-Muhtady
Associate Professor

Research fund (Seed-grant)

- Dr. Iyas Al Khader granted a GJU Seed-grant of the research proposal entitled “Investigating the influence of residual stresses and hydrogen content on the diffusion of hydrogen in bearing steel”
- Dr. Hani Mohsen (Principle Investigator), together with Prpf. Alaaldeen Alhalhouli (Co-Principle Investigator) Dr. Hisham ElMoqet (Co-Principle Investigator) have granted a GJU Seed-grant of the research proposal entitled “Modeling and Simulation Distributed Energy Resources in Smart Grid: Management and Optimization”
- Dr. Abdallah Abdallah has granted the GJU Seed-grant of the research proposal entitled “Performance management during health pandemics: an investigation of the Jordanian plastic industry”
- Dr. Ala Hijazi has granted the GJU Seed-grant of the research proposal entitled “Effect of the Use of Color Cameras on Digital Image Correlation Measurements Accuracy”

SATS's Student Wins the "Jordanian Dream Essay Competition 2020"



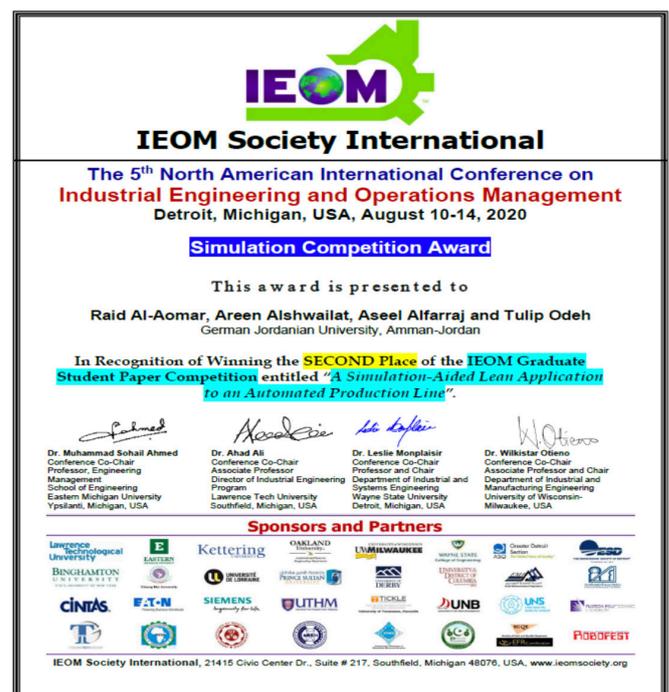
Hussein Obaeidat, a student in his fourth year in SATS-IE department won the Jordanian Dream Essay Competition 2020, organized by the Friedrich Naumann Foundation (FNF) Jordan in jury partnership with the German Embassy in Amman and GJU. The winners will get the chance to visit Berlin, Germany, where they will receive the opportunity to experience and learn more about German politics.

According to Hussein: "I never wrote anything

Students' Simulation Competition at Industrial Engineering and Operations Management (IEOM) Conference 2020

Areen Alshwailat, Aseel Alfarraj, and Tulip Odeh, a group of SATS-IE students supervised by Prof. Raid Alaomar, have won the second place at the Simulation Competition at IEOM 2020 conference, held in USA, August, 2020. The won paper, entitled "A simulation-Aided Lean Application to an Automated Production Line" was also published by conference proceeding in IEEE Explore (Scopus-indexed).

before participating in FNF's competition, so that was my first experience in writing something outside of the University, but the theme of the competition "Jordanian Dream" was interesting and persuasive enough to make me write an essay. I chose the topic, Public Participation in Decision-Making for Development, it is a dream of mine to have an increased and responsible public participation in the future, but some obstacles are preventing this from happening. Therefore, I wrote about how we could face and overcome these obstacles. While writing, I kept dreaming of overcoming the difficulties to make Jordan a better place from our participation and be a vital part of the change, and that's what kept me motivated. Frankly, I was surprised to be among the five winners. It is a great feeling to be rewarded for your Jordanian dream. Lastly, it is nice to see organizations like FNF creating a platform and competitions like this for the Jordanian youth, and it is great to see our University sharing these types of competitions with us."



Dina Karasneh is a new Lecturer in the Mechatronics Engineering Department. She received the B.Sc. degree and the M.Sc. degree from the Jordan University of Science and Technology (JUST) and worked as a Research Assistant at JUST where she carried out projects on BioMEMS and microfluidics.



Ahmad Kattan is currently a research and teaching assistant at the Mechanical and Maintenance Engineering department. He received his B.Sc. in Mechanical engineering from the University of Jordan with an excellent average. Eng. Ahmad started his journey in engineering at Dar Alhandaseh Company in building services design, then he worked in design and manufacturing of Aluminum products at Petra Aluminum Company. Before joining SATS/GJU, Eng. Ahmad also worked as teaching assistant at Al-Zaytoonah University. His research interest is in Applied Mechanics, Mechanical Vibrations and Dynamics.



Be yourself, be
a MECHANICAL
(oh sorry SATS)
engineer!

#Humans_of_SATS



GJU SATS

SCHOOL OF
APPLIED
TECHNICAL
SCIENCES

PROF. ALA'ALDEEN AL-HALHOULI MECHATRONICS ENGINEERING CHALLENGES, OH NEIN!

“ I have always loved physics and math. Science, research and exploring new ideas are my hobbies. This is why I am a mechanical engineer!

However, the real engineering challenges to prove myself started after getting a DAAD scholarship to complete my PhD thesis work at TU Braunschweig in Germany. It was a big challenge, and included performing experiments, simulations, fabrication of micro-devices, and working with outstanding team.

It was a big change to have to understand and speak German, OH NEIN! Can you imagine what I did to my family and myself? GJU'ers are the only ones who can understand this situation! How should I overcome that? After deep thinking and discussions, there is no other solution than to accept the challenge and work hard.

NO RISK NO FUN!

“ The result of this hard work was that I have enjoyed many career success, including: finishing my PhD; working at TU Braunschweig for 6 years; joining GJU and getting promoted to the Professor rank in less than 4 years; and serving my beloved School as Dean.

This is just to let you know that you can do it, and always keep in mind that you are the main player and should decide on how to do proceed - no risk no fun! Do not underestimate things or people and take it seriously. Do what you love, not what people convinced you to love! Be yourself, be a mechanical (oh sorry SATS) engineer! ”

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" Industrial Engineering makes things better "

#Humans_of_SATS



GJU SATS

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DR.ABDALLAH ABDALLHA

INDUSTRIAL ENGINEERING

WHAT IS MY PAASION?

" I never thought for a minute that I will become an engineer. Even when it was time to apply for universities, I felt that it is important to join a school where math and physics are vital, just because I was good at them. I graduated from the mechanical engineering department - University of Jordan in 1993.

What shaped my engineering thinking was not studying in a university. It was, rather, working for more than 10 years in the American automotive industry. It was then and there, that I realized that mechanical engineering is not my passion. Industrial engineering is."

MANAGING YOUR SURROUNDINGS!

" Working with the Americans taught me how important for every engineer to learn some management and leadership skills. Technical abilities can take you so far in life, but when blended with abilities to manage your surroundings, you can become a superior Engineer.

I believe that engineers can lead organizations to unprecedented levels of excellence, if they always strive to perform better and raise the bar. This is a notion that I try to bring to all my classrooms."

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As a part of Flying Faculty Program in 2020, The School of Applied Technical Sciences (SATS) hosted Prof. Dr. Wolfgang Eibner from University of Applied Sciences Jena to teach a course in “General Management and Business Simulation.” We met Prof. Eibner and had the following conversation:

Q. What attracted you to teach in GJU?

It always is a great pleasure for me to come to Jordan and teach at GJU. First I was asked by DAAD to come to GJU in 2013; I agreed that time mainly because it was the first time for me to visit an Arab country. My stay then at GJU and in this wonderful country of Jordan was that impressive, that I came back every year to either teach at GJU or come for 1 or 2 weeks of vacation.

Q. How do you find the teaching experience in GJU.

I love to teach in GJU for many reasons: All colleagues are always very supporting, extremely friendly and competent. The teaching conditions are impressively positive: the campus is very nice, the seminar rooms are well-arranged. Another good thing I like is the cafeteria: Nowhere in Germany is there such good Turkish coffee.

Q. What is your feedback of GJU students.

I am teaching at GJU since 2013 and I am always

very impressed of the high motivation and commitment of GJU students. Also their respect and willingness for hard work in the lessons is impressive.

Q. Do you have any suggestions to improve our educational system?

My stay at the GJU was too short to make a meaningful statement about it.

The only thing may be: Students should be asked to act much more in German language. In my English final exam, I gave students the opportunity to score additional points when questions are answered in German language instead of in English. But only one in 18 students took this opportunity.

Q. What do you know about Jordan and how do you find it?

I really like the wonderful and impressive country and the very polite people in Jordan since I was first in Jordan in 2013. I was so impressed by this country that I visit Jordan every year since 2013, for vacation and/or for teaching at GJU, which I did five times up to now.

I also like to travel to the historic sites of Jordan (like Petra, castles, etc.), to the dead sea, or the great wadis in the south, or the northern region with Azrac region for example.

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