مشاريع خاصة بشعة القوى والآلات للعام الجامعي 2021/2020

م	عنوان المشروع (تخصص المشروع)	لجنة الإشراف	ملخص عن المشروع
.1	Distribution System in a new city (قوى كهربية)	أ.د/ عبد الله أحمد إبراهيم	في هذا المشروع يتم تصميم وانشاء شبكة التوزيع الكهربي فى مدينة جديدة بها الاحمال المنزلية فى احياء راقية ومتوسطة ومحدودة الدخل ومدارس ومستشفى وبعض الورش ومسجد وكنيسة ونادي رياضي وخلافه ويتم تغذيتها من شبكة جهد متوسط
.2	Solar smart home system (قوى كهربية)	أ.د/ عبدالمجيد محمد على	وهو عباره عن دراسه مكونات الطاقه الشمسية المختلفه اللازمة للمنازل. واستخدام الأنظمة الذكيه للحصول على الاستخدام الأمثل الطاقه.
.3	Electrical Power Distribution for Urban City (قوى كهربية) Egyptian electrical code	أ.د/لوئ سعدالدين + د/ صلاح محمد كامل	Electricity distribution is the final stage in the delivery of electricity to end users. Distribution system networks carry electricity from the transmission system and deliver it to consumers, typically, the network would include medium voltage (66KV) power lines, electrical substations and pole mounted transformers low voltage (less than 3.3KV) distribution wiring and sometimes electricity meters. Nowadays, power system distribution aspects are very important to verify safety, service continuity and reliability of power system operation under normal and abnormal conditions. The aim of this work is to make the students able to design power distribution network of new city with particular appreciation of the service continuity. **Steps undertaken by the project** 1- Design the optimum sizing and sitting of 66/11KV substation which makes minimum cost. 2- Make the building wiring in residential area like flats and villa and the rating of conductors used, the fuses and MCB used inside the building. 3- Design a low voltage network for a residential area and knowing the rating of distribution boxes and distribution transformers. 4- Design a medium voltage network and the loops of distribution points. 5- Study the 66/11KV substations and the protection of it. 6- Knowing the system protection of all equipment of electrical system like protection of transformers. 7- Making a wiring diagram for different services like mosque and school. **Project Challenges** 1- Fulfillment of the objectives. 2- Gain experience in the field of design and analysis of distribution networks. 3- Capability to work in the field of distribution network design. 4- Efficient use data base, codes, software and internet. 5- Writing technical reports and conducting presentations. 6- Participation in team work.

رئيس القسم: ا.د/ إيهاب خلف إبراهيم

تابع مشاريع خاصة بشعة القوى والآلات للعام الجامعي 2021/2020

م	عنوان المشروع (تخصص المشروع)	لجنة الإشراف	ملخص عن المشروع
.4	Design of Smart Microinverter for Next Era Photovoltaic Systems (إلكترونيات صناعية)	أ.د/ محمد عبدالعزيز مهلل عرابي	Theory, System design and Experimental implementation of prototype PV microinverter with smart features
.5	"Design and Implementation of Switched Reluctance Motor Drive for Electric Vehicles" (إلكترونيات صناعية)	د/ مصطفى محمد دردير	The main target of this project is to study the characteristics of switched reluctance machine when working as a motor for electrical vehicle application.
.6	Design, implementation and testing of BIPVT-PCM based drying system in hot climate (قوى كهربية)	د. العطار على محمد	يهدف المشروع إلى زيادة القيمة المضافة لانظمة التجفيف المدمجة مع الطاقة الكهروضوئية باستخدام مواد متغيرة الطور مع التحكم في درجتى الحرارة والرطوبة.
.7	Design and Implementation of On-Board Charger for hybrid plug-in Electric Vehicles (إلكترونيات صناعية)	د/ محمود عبدالوهاب جعفر	Experimental implementation of prototype for On-Board Charger for hybrid plug-in Electric Vehicles
.8	Design of an efficient LED-Lamp Driver with multiple output (إلكترونيات صناعية)	د/ عمر محمد عبدالرحيم	نظراً للتوسع فى اضاءات العاكس ثنائى الانعكاس. سوف يتناول هذا لامشروع تصميم عاكس للمبات ثنائية الانعكاس الضوئى المستخدمة فى شاشات العرض وكذلك الاضاءات الخلفية
.9	Intelligent Energy Management Systems for Future Green Building Nanogrids (قوى كهربية)	د/ عماد عبدالنبي محمد	

رئيس القسم

ا.د/ إيهاب خلف إبراهيم

مشاريع خاصة بشعبة إلكترونيات واتصالات للعام الجامعي 2021/2020			
.1	Design of Analog/RFIC circuits for mm-wave communication systems. (إلكترونيات واتصالات)	أ.د/ السيد عبدالحميد محمود حسانين + أ.د/ اسامه أحمد عمر	The students will study the design of RF/millimeter-wave systems in 65 nm technology. In particular, they will investigate the suitable topologies and circuit design for 5G communication circuits and finally they prepare the design in schematic and layout levels.
.2	Deployment of High Speed Convolution Neural Network on FPGA (اتصالات + حاسبات)	أ.د/ السيد عبدالحميد محمود + د/ أحمد مصطفى عبدالرحمن	Processing data based on the machine learning modules on software are slow. Our target is to design a processor for optimizing the speed based on hardware design.
.3	"Design, Simulation and Implementation of Smart Electric Vehicle Based on Wireless Changing System" (إلكترونيات واتصالات)	أ.د/ إيهاب خلف إبراهيم + د/ عادل أمين أبو الحمد	The aim of this project is to design, simulate and implement a prototype of an Electric Vehicle (EV) with a highly efficient wireless charging system. The project enables the students to be familiar with how the different branches of the electric engineering can be combined to produce a prototype for the smart EV as one of the Future environmentally friendly products and one of the cost-effective projects in terms of the Energy Management Point of View.
.4	Camera-Based Oxygen Saturation Calculation (اتصالات)	أ.د/ اسامه أحمد عمر	
.5	Design and Modeling a TACATS (Smart Traffic Alert and Collision Avoidance Transport System) Based on V2V communications (اتصالات)	د/ سامية حشمت حسن + د/ عادل فتحي خليفة	The focus of TACATS is to use the potential benefits of new and existing wireless and Satellite technologies in-vehicle to vehicle communications for achieving safety transport system by reducing traffic accidents and avoid collisions. Also, TACATS can help drivers to take the optimum and safe route for their destination. TACSTS can provide important information about the car and the driver's behavior which can be used for safety and investigation purposes.
.6	Audio Signal Processing for Diagnosis of Diseases (AUDEASE أوديس) (اتصالات)	د/ محمود فخرى محمود	We design and develop systems that listen to the organs of your body to automatically check their health. These systems are built based on machine learning tools and signal processing approaches.The novel coronavirus, or COVID-19, has been spreading worldwide, resulting in growing numbers of infected individuals since late 2019 and increased mortality numbers since early 2020. By analyzing the sound of cough through an appropriate engine, a preliminary diagnosis of COVID-19 and other medical conditions such as asthma and pneumonia can be obtained within a minute. Our aim in this project is to present a proof of concept to encourage controlled clinical trials and also to serve as a call for labeled cough data.

رئيس القسم

ا.د/ إيهاب خلف إبراهيم

مشاريع خاصة بشعبة الحاسبات والنظم للعام الجامعي 2021/2020			
.1	Deployment of High Speed Convolution Neural Network on FPGA (اتصالات + حاسبات)	أ.د/ السيد عبدالحميد محمود + د/ أحمد مصطفى عبدالرحمن	Processing data based on the machine learning modules on software are slow. Our target is to design a processor for optimizing the speed based on hardware design.
.2	Design and evaluation a university management program to manage students' grades and issue certificates and transcripts (حاسبات)	د/ أحمد مصطفى عبدالرحمن + د/ عادل فتحي خليفة	The project aims to design a program for managing the university electronically. In the first stage will be on students' affairs only, as the students 'grades will be entered in an electronic form for each course. Each faculty member can enter the grades of his students on the system online. Student data and final exams grades are entered through the members of the Control and Student Affairs. The program will process the entered data and show the students' results for each student on his account.
.3	Developing AI Chatbot To fight Coronavirus (حاسبات)	د/ محمود على صابر	Studetnts will design a sophisticated artificial intelligence (AI) chatbot for the purpose of diagnostic evaluation and recommending immediate measures when patients are exposed to nCOV-19. In addition, it is possible to present a virtual assistant that can also measure the infection severity and connects with registered doctors when symptoms become serious.
.4	Implantation and Performance Evaluation of Aswan Faculty of Engineering (AFE) Network (حاسبات واتصالات)	د/ عادل فتحي خليفة	The AFE network will be studied in details. The topology of the network, the components of it such as (switches, bridges, routers, access points and links will be identified. The student will built a complete model for AFE network using suitable simulator software. Performance evaluation of the AFE model will be performed assuming different traffic scenarios. The students also analyze the traffic in different point of the network using wireshark software or packet tracer software. **Tools:** The students are free to use any network simulator such as: For network simulator: NS3, Boson NetSim, Opnet For capturing traffic: Wireshark, packet tracer **Tasks:** 1- Learn how to use the network simulator and configure a simple network 2- Learn how to capture traffic and collect data from software. 3- Collect all information about AFE network and its devices 4- Built the AFE network topology on paper and declare the function of each part 5- State the available IP address and check if it is enough for all devices. Assign the IP address of each device in the network. 6- Check the connectivity of each device and its location. 7- Capture the traffic in different points of the AFE network and plot it with time.

رئيس القسم

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