RIT

جامعة روتشستر الأمريكية للتكنولوجيا في دبي
A Global American University in Dubai

10th ENGINEERING COMPETITION

WIN SCHOLARSHIPS & AMAZING PRIZES

Programming Competition
Math Competition
Electrical Engineering Competition
Industrial Engineering Competition
Mechanical Engineering Competition
Design Thinking Competition
Hacking Competition*

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November 7, 2019

Deadline to Register: October 29

Register here: www.rit.edu/dubai/engineering-competition

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*Students must bring their own laptops and will have to attend a prior workshop on Saturday - November 2, 2019 at RIT Dubai.

Registration is limited to 20 Schools
2 students per school per competition

For more information, please send an email at:
engcompetition@rit.edu

Organized by RIT Dubai Electrical, Computing, Mechanical and Industrial Engineering Departments

Competition Organizing Committee:

Dr. Boutheina Tlili

Dr. Salman Pervaiz

Dr. Omar Abdul-Latif

Dr. Dua Werkait

Dr. Jinane Mounsef

Dr. Rouba Borghol

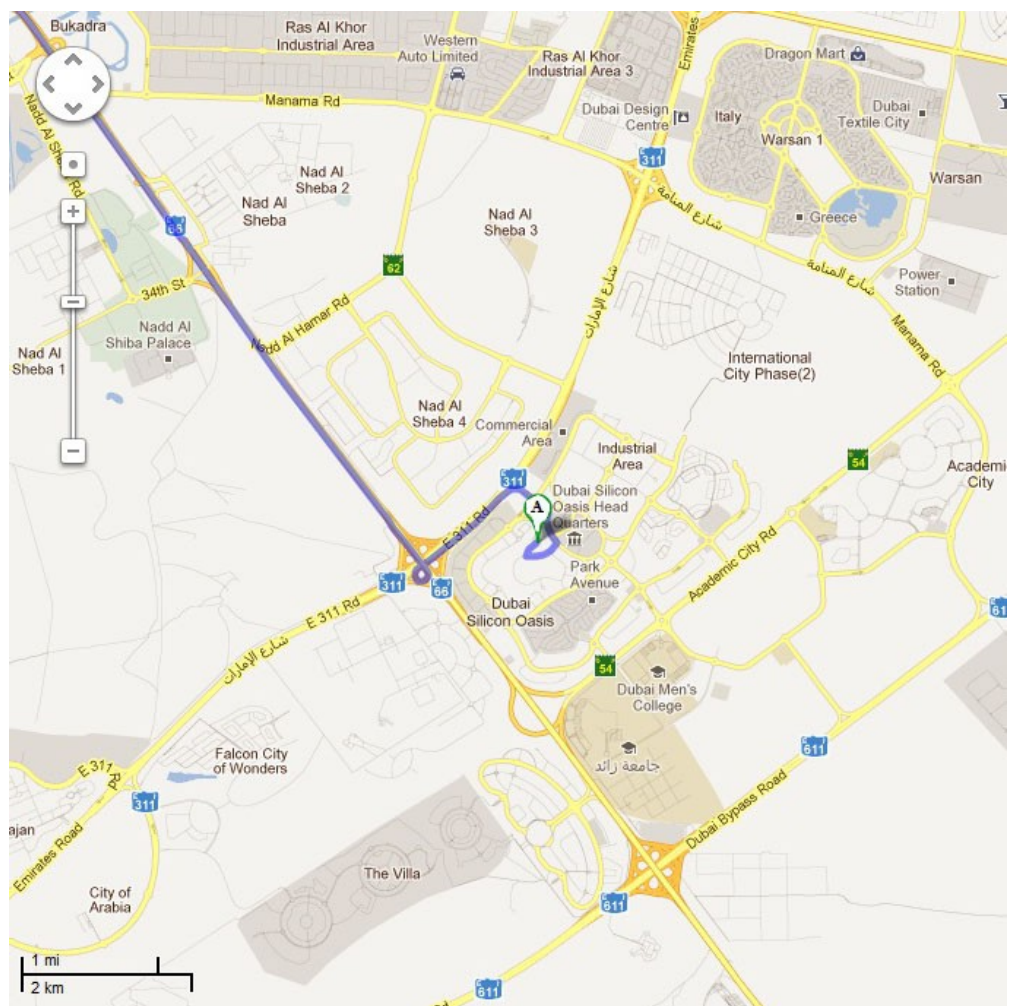Dr. Mohammed W. Abdulrahman

Dr. Wesam Almobaideen

Introduction: what is RIT-Dubai Engineering Competition?

Rochester Institute of Technology – Dubai Engineering Competition is an annual competition that is intended for high school students (grade 10, 11 and 12) who are interested in Computer, Electrical, Industrial or Mechanical Engineering Studies. Students will participate and compete in a friendly, informative and professional atmosphere where they will be able to test their ideas and explore other ideas that will broaden not only their knowledge but also their conception.

When: Thursday November 7, 2019.

Where: Rochester Institute of Technology – Dubai campus - Techno Point, Dubai Silicon Oasis

More info on: https://www.rit.edu/dubai/about/directions-to-campus

How can I participate?

Interested students can't participate as individuals. They have to get schools permission and supervision. Any team of at most two students has to be formed under the supervision of at least one school official (teacher or administrator).

Competitions

There are seven on-site competitions:

- Mechanical Engineering Competition
- Math Competition
- Programing Competition
- Industrial Engineering Competition
- Electrical Engineering Competition
- Design Thinking Competition
- Hacking Competition*

* Students must bring their own laptops and will have to attend a prior workshop on Saturday – November 2, 2019 at RIT Dubai.

Competition General Description

- Each one of the on-site competitions will be for 2 hours.
- The questions will be revealed on the day of the competition.
- Only one team (maximum of **two** students) is allowed for each competition.

Mechanical Engineering Competition

The Mechanical Engineering Competition provides a platform for high school students to present their solutions to a wide range of design problems. Participating teams of two or three students are provided with the raw materials at the day of the event. Each team must use the provided materials to design and build a working mechanical mechanism or system. Teams of students must agree on a design for the required mechanism. Students will draw a sketch of their agreed upon design prior to construction. Resulting mechanisms are then tested and checked for the range of motion and satisfaction of the given criteria. The evaluation criteria will be provided at the time of competition.

If you have any questions, please contact Dr. Mohammed W. Abdulrahman (email: mwacad@rit.edu)

Math Competition

- One Competition Manual will be provided for each team.

- The problems will be of different level of difficulty and hence different number of points will be allocated for each one.

- Calculators are not allowed.

If you have any questions, please contact Dr. Rouba Borghol (email: rbbcad@rit.edu)

Programming Competition

Another year with another programming competition as part of the RIT-Dubai Engineering Competition 2019. Whether you would like to pursue a career in computing technologies/security, want to learn more about programming, or simply want to put your skills to the test, you should come to our annual competition. This year we have prepared a fresh set of interesting and challenging problems that are divided into different levels of difficulty in order to accommodate beginners as well as more experienced programmers while keeping it exciting. Solutions to the contest problems will require numerical calculations, simple string manipulation, logical decisions and iterative techniques. You can choose any programming language you want (i.e. Java, C++, Python ... etc). Are you up to the Challenge?

- At the University, we have:

    - Python (2.7), Eclipse Mars.1 Release (4.5.1), JGrasp (version 2.0.1_09) and BlueJ (version 3.1.5).

- You are allowed to use your own laptops and you are welcome to use our computers in our lab.

- The competition will go for about 1 hour and 15 minutes.

- There will be a total of 6 problems that are designed on three levels (easy, med and hard) and each problem have a number of points assigned to it (50, 100 and 150 respectively).

- When a team finishes any of the questions, the team members need to call the competition judge to test the code and give the points (if everything is working properly).

- Calling the judge to test a nonworking code or a wrong code will result in losing 10 points.

- To determine the winner:

    - The team with the highest number of points will win.

    - In case of a draw, the team that finished first will be the winner.

    - In the far-fetched case of two (or more) teams finishing at the exact time, we will have a bonus question (i.e. Tie Breaker) to select the winner.

If you have any questions, please contact Dr. Omar Abdulatif (email: omacad@rit.edu)

Industrial Engineering Competition

Industrial engineers design, optimize, and manage a process by which products are made and distributed across the world (i.e., global supply chain), or the way services are delivered in industries such as banking, healthcare, energy, or entertainment. Industrial engineers ensure that high-quality products and services are delivered in a cost-effective manner. The Industrial Engineering Competition provides a platform for high school students to present their solutions to real-life industrial problems. The challenging case focuses on enhancing resource utilization. Teams are provided with the problem on the day of the event. Each team must work together to come up with the best strategy to mitigate the challenge. Teams are evaluated against the best strategy within the time scale.

If you have any questions, please contact Dr Dua Weraikat (email: dxwcad@rit.edu)

Electrical Engineering Competition

The Electrical Engineering Competition provides a platform for high school students to explore solutions in different fields of Electrical Engineering. Participating teams of two students are provided with a breadboard and electrical components at the day of the event. Each team must use the provided kit to build a working electrical system. Resulting circuits are then tested and checked for the range of performance and satisfaction of the given criteria. The evaluation criteria will be provided at the time of competition.

If you have any questions, please contact Dr. Mounsef (email: jmbcad@rit.edu)

Design thinking competition

The design teams will be required to design a "product/Solution" to a problem customer using one of the design thinking methodologies within the allotted time (2 Hr)

The teams will be judged on the: attractiveness of the solution – The technical feasibility – and the robustness of the methodology used.

If you have any questions, please contact Dr. Slim Saidi (email: sxscad1@rit.edu)

Hacking Competition

The RIT Hacking Competition targets students from grade 11 to grade 12 and will be held on 7th, November. In this competition, students will be divided into groups in which they will work together to hack into various Windows and Linux machines that will be deployed. A Cyber Security Essentials training on November 2nd will be provided to teach students all they need to know to participate in this competition. Students need to bring their own laptop for this competition and training.

If you have any questions, please contact Dr. Wesam Almobaideen (email: wxacad@rit.edu)