



كليات التقنية العليا  
HIGHER COLLEGES OF TECHNOLOGY

HCT  
2.0

# HCT-ENGINEERING PROGRAM OFFERINGS

2018 - 2019



# HCT ENGINEERING PROGRAMS

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# ABOUT HCT



## HISTORY

Founded in 1988 with four campuses, the Higher Colleges of Technology (HCT) has grown to be the UAE's largest applied higher educational institution, gaining a well-respected reputation for innovative and job-focused experiential learning.

Approximately 23,000 students attend 16 modern, technology-oriented men's and women's campuses in the cities of Abu Dhabi, Al Ain, Dubai, Fujairah, Madinat Zayed, Ras Al Khaimah, Ruwais and Sharjah. HCT offers a wide range of programs in the academic fields of Applied Media, Business, Computer Information Science, Education, Engineering Technology & Science, General Academic Requirements and Health Sciences.

These programs are all relevant to the UAE's fast growing economy and are designed in consultation with business and industry leaders to ensure that HCT students' skills are job-relevant and to the highest standards. The courses taught at the HCT campuses are a hybrid blend of innovative, academic studies and work-relevant programs, ensuring that HCT graduates have the necessary 21st century skills to make positive and lasting contributions to UAE society. All HCT programs are constantly monitored to ensure they are at the cutting-edge of industry standards and technological change.

### VISION

The Higher Colleges of Technology is the leading applied higher education institution in empowering generations to contribute to the shaping of the future of the UAE.

### MISSION

Provide applied higher education to equip generations with knowledge, skills and competencies that meet international standards and the future needs of the UAE industry and society.

### VALUES



Creativity & Innovation



Accountability



Integrity



Excellence



Respect



Community Spirit



Service to Society



Program Duration:  
**Bachelor:** 4 Academic years

**Higher Diploma:** 3 Academic years



# AERONAUTICAL ENGINEERING TECHNOLOGY

## WHY CHOOSE HCT'S BACHELOR OF AERONAUTICAL ENGINEERING TECHNOLOGY (BAEET) PROGRAM?

The program has specialization options to cater for the UAE's globally-oriented aircraft industry. Graduates are trained to support the design, development, and maintenance of aviation systems to the highest industry standards. They are trained to use state-of-the-art software and hardware to enhance their skills and to be equipped to strengthen their career opportunities. Students can graduate with a Diploma upon completion of 81 credits, plus the -8week Work Placement.

## KEY SKILLS:

- Apply aeronautical engineering technology knowledge, skills, and modern tools to engineering technology activities
- Apply STEM to Aeronautical Engineering Technology problems
- Conduct standard tests, measurements and experiments; and apply results to improve processes
- Design systems, components, or processes for relevant issues
- Identify, analyze & solve aeronautical engineering technology problems
- Communicate in technical & non-technical environments & use appropriate technical literature

## ABOUT THE PROGRAM:



### Learning facilities:

Classes, workshops, well-equipped studios and labs using state-of-the-art equipment



### Requirements:

- Minimum 146 credits  
Comprising: 80 credits, work placement for 16 weeks  
Electives: 12 credits  
General Studies: 33 credits
- Minimum CGPA of 2.00



### Job opportunities:

Engineering careers in the design, development, and maintenance of aviation systems



### Average salary upon graduation:

20 – 30K AED



Program Duration:

**Bachelor:** 4 Academic years

**Higher Diploma:** 3 Academic years



# AVIATION MAINTENANCE ENGINEERING TECHNOLOGY: AIRFRAME AND AEROENGINES

## WHY CHOOSE HCT'S BACHELOR OF AVIATION MAINTENANCE ENGINEERING TECHNOLOGY: AIRFRAME AND AEROENGINES PROGRAM? (BAVET)

The program provides graduates with excellent knowledge and skills to work effectively and professionally in the aviation community, working as technicians and engineers embracing innovation. Graduates can take up aviation industry positions and can work practically to apply Aviation Maintenance skills and solutions with consideration of the industry regulations and ethics.

### KEY SKILLS:

- Apply knowledge on mathematics, natural sciences and aviation maintenance engineering to solutions
- Identify and solve aviation maintenance engineering problems; and apply appropriate analytical methods
- Apply knowledge according to aviation authorities' regulations & manufacturer's instructions
- Knowledge on forensic, communal and environmental frameworks relevant to aviation operations
- Analyze systems, system components or processes & use advanced design methods to meet requirements

### ABOUT THE PROGRAM:



#### Learning facilities:

Classes, workshops, well-equipped studios and labs using state-of-the-art equipment



#### Requirements:

- Minimum 150 credits  
Comprising: 99 credits, work placement for 16 weeks, 300 hours Work Placement  
Math & Science: 18 credits  
General Studies: 33 credits
- Minimum CGPA of 2.00  
Complete 60% of the GCAA license exams



#### Job opportunities:

Aviation engineers and technicians in military operations, state commercial operations, private aviation operations and aviation supporting industries and logistics



#### Average salary upon graduation:

20 – 30K AED



Program Duration:  
**Bachelor:** 4 Academic years

**Diploma:** 2 Academic years



## AVIATION MAINTENANCE ENGINEERING TECHNOLOGY: AVIONICS

### WHY CHOOSE HCT'S BACHELOR OF AVIATION MAINTENANCE ENGINEERING TECHNOLOGY: AVIONICS PROGRAM? (BAAET)

The program provides graduates with excellent knowledge and skills to work effectively and professionally in the aviation community, working as technicians and engineers. Graduates can take up aviation industry positions and can work practically to apply avionics maintenance skills and solutions with consideration of the industry regulations and ethics.

### KEY SKILLS:

- Apply knowledge on mathematics, natural sciences and avionics maintenance engineering to solutions
- Identify and solve avionics maintenance engineering problems
- Apply knowledge according to avionics authorities' regulations & manufacturer's instructions
- Knowledge on forensic, communal and environmental frameworks relevant to avionic operations
- Analyze systems, components or processes & use advanced design methods

### ABOUT THE PROGRAM:



#### Learning facilities:

Classes, workshops, well-equipped studios and labs using state-of-the-art equipment



#### Requirements:

- Minimum 150 credits  
Comprising: 99 credits, work placement for 16 weeks, 300 hours Work Placement
- Math & Science: 18 credits
- General Studies: 33 credits
- Minimum CGPA of 2.00
- Complete 60% of the GCAA license exams



#### Job opportunities:

Technicians and engineers in military operations, state commercial operations, private aviation operations and aviation supporting industries and logistics



#### Average salary upon graduation:

20 – 30K AED





Program Duration:

**Bachelor:** 4 Academic years

**Higher Diploma:** 3 Academic years



## CHEMICAL ENGINEERING TECHNOLOGY

### WHY CHOOSE HCT'S BACHELOR OF CHEMICAL ENGINEERING TECHNOLOGY (BCHET) PROGRAM?

The program covers the laws of chemistry, physics, and mathematics which form the basis of many industrial processes in areas such as energy, oil and gas, and chemical processing. Students will gain practical knowledge in heat and mass transfer in plants and process control design projects. Graduates have strengths in applied design, development, and implementation of chemical engineering systems.

### KEY SKILLS:

- Apply chemical engineering knowledge & skills to broadly-defined engineering technology activities
- Apply STEM to Chemical Engineering Technology problems
- Conduct standard tests, measurements and experiments; and apply results to improve processes
- Design systems, components, or processes for relevant issues
- Identify, analyze & solve chemical engineering technology problems

### ABOUT THE PROGRAM:



#### Learning facilities:

Classes, workshops, well-equipped studios and labs using state-of-the-art equipment



#### Requirements:

- Minimum 146 credits  
Comprising: 92 credits  
80 credits, 16 week Work Placement  
Electives: 12 credits  
Math & Science: 21 credits  
General Studies: 33 credits
- Minimum CGPA of 2.00



#### Job opportunities:

Technicians & Engineers in design, manufacturing, operation, and maintenance of chemical processes



#### Average salary upon graduation:

20 – 30K AED



Program Duration:

**Bachelor:** 4 Academic years

**Higher Diploma:** 3 Academic years



## CIVIL ENGINEERING TECHNOLOGY

### WHY CHOOSE HCT'S BACHELOR OF CIVIL ENGINEERING TECHNOLOGY (BCVET) PROGRAM?

The program covers different streams in Civil Engineering including planning and design of buildings, bridges, transportation systems, water resources and supply, with particular attention to protection of the environment. Graduates will have the ability to analyze and design systems, specify project methods and materials, perform cost estimates and analyses, and manage technical tasks in support of both public and private sector organizations in Civil Engineering construction.

### KEY SKILLS:

- Apply civil engineering knowledge & skills to broadly-defined engineering technology activities
- Apply STEM to Civil Engineering issues & problems
- Conduct standard tests, measurements and experiments; and apply results to improve processes
- Design systems, components, or processes for relevant issues
- Identify, analyze & solve civil engineering problems

### ABOUT THE PROGRAM:



#### Learning facilities:

Classes, workshops, well-equipped studios and labs using state-of-the-art equipment



#### Requirements:

- Minimum 146 credits  
Comprising: 92 credits  
72 core credits, 16 week Work Placement Electives: 15 credits  
Math & Science: 21 credits  
General Studies: 33 credits
- Minimum CGPA of 2.00



#### Job opportunities:

Civil Engineers & Technicians with careers in planning, design, construction, operation and maintenance of infrastructure in a sustainable environment.



#### Average salary upon graduation:

20 – 30K AED





Program Duration:  
**Bachelor:** 4 Academic years



## ELECTRICAL ENGINEERING TECHNOLOGY

### WHY CHOOSE HCT'S ELECTRICAL ENGINEERING TECHNOLOGY (BELET)

Program graduates are trained to support power generation, transmission, distribution, and control of electric energy systems and related equipment. Students gain experience in circuits, semiconductor devices, digital systems, programming, microcontrollers, power systems, industrial instrumentation, and system control. Students can choose concentrations in Power Engineering Technology, Communication Engineering Technology, Electronics Engineering Technology and Control and Instrumentation Engineering Technology.

### KEY SKILLS:

- Technical basic skills: computer programming, Microcontroller and Embedded systems, Mobile and communication, Power generation and transmission, electronics design, design and maintain electrical systems and devices.
- Soft skills: life-long and independent learning, teamwork, decision making, project management communication skills.

### ABOUT THE PROGRAM:



#### Learning facilities:

Classes & Laboratories, Hospitals & Clinics, Exhibits & Conferences, Community settings.



#### Requirements:

- Minimum 146 credits  
Comprising: 92 credits  
77 credits, Wk Placement,  
Major Electives: 15 credits  
Math & Science: 21 credits  
General Studies: 33 credits
- Minimum CGPA of 2.00



#### Job opportunities:

Engineers (site, quality control, support & maintenance, software, hardware, research and development), designers, teachers, university professors and managers.



**Average salary upon graduation:**  
20 – 30K AED



Program Duration:  
**Bachelor:** 4 Academic years

**Diploma:** 2 Academic years



## INDUSTRIAL ENGINEERING TECHNOLOGY

### WHY CHOOSE HCT'S BACHELOR OF INDUSTRIAL ENGINEERING TECHNOLOGY (BINET) PROGRAM?

Industrial Engineering Technology students are trained to support the analysis, design, development and improvement of manufacturing and service systems from quality, productivity, financial and safety perspectives. Students are trained to use state of the art software packages necessary to facilitate their efforts to optimize, statistically analyze and simulate existing systems, and to test and validate potential gains attainable from improving the system.

### KEY SKILLS:

- Apply knowledge & skills to engineering technology activities knowledge, skills, and modern tools to Industrial Engineering activities
- Apply STEM to Industrial Engineering issues & problems
- Conduct standard tests, measurements and experiments; and apply results to improve processes
- Design systems, components, or processes for relevant issues
- Identify, analyze & solve Industrial Engineering problems
- Communicate in technical & non-technical environments & use appropriate technical literature

### ABOUT THE PROGRAM:



#### Learning facilities:

Classes, workshops, well-equipped studios and labs using state-of-the-art equipment



#### Requirements:

- Minimum 146 credits  
Comprising: 95 credits  
80 core credits, Wk Placement,  
Electives: 15 credits  
Math & Science: 18 credits  
General Studies: 33 credits
- Minimum CGPA of 2.00



#### Job opportunities:

Engineers and technicians working in analysis, design, development and improvement of manufacturing and service systems



#### Average salary upon graduation:

20 – 35K AED



Program Duration:  
**Bachelor:** 4 Academic years

**Diploma:** 2 Academic years



# LOGISTICS ENGINEERING TECHNOLOGY

## WHY CHOOSE HCT'S BACHELOR OF LOGISTICS ENGINEERING TECHNOLOGY (BLGET) PROGRAM?

Logistics Engineering Technology students are trained to support the analysis, design, development and improvement of logistics systems in the manufacturing and service arenas. Students are trained to use state of the art software packages necessary to facilitate their efforts to analyze and optimize existing systems, and to test and validate potential gains attainable from improving systems.

## KEY SKILLS:

- Apply knowledge & skills and modern tools to Logistics Engineering activities
- Apply STEM to Industrial Engineering issues & problems
- Conduct standard tests, measurements and experiments; and apply results to improve processes
- Design systems, components, or processes for relevant issues
- Identify, analyze & solve Logistics Engineering problems
- Communicate in technical & non-technical environments & use appropriate technical literature

## ABOUT THE PROGRAM:



### Learning facilities:

Classes, workshops, well-equipped studios and labs using state-of-the-art equipment



### Requirements:

- Minimum 146 credits  
Comprising: 95 credits  
83 core credits, 16 week Work Placement, Electives: 12 credits  
Math & Science: 18 credits  
General Studies: 33 credits
- Minimum CGPA of 2.00



### Job opportunities:

Engineers and technicians working in specializations that cater to the UAE's global logistics industry.



### Average salary upon graduation:

20 – 30K AED



Program Duration:  
**Bachelor:** 4 Academic years



## MARINE TRANSPORT

### WHY CHOOSE HCT'S BACHELOR OF APPLIED SCIENCE IN MARINE TRANSPORT

The program provides education and training to cadets to enable them to pursue a career as a navigating officer at sea. The degree includes the required academic component for the certificates of competency up to Master's level. This program provides students with the necessary education and training to become a navigating (deck) officer onboard ships.

### KEY SKILLS:

Operation of Modern and sophisticated state of the art ships, Marine Engineering skills, Safety on board skills, Management skills, Communication and information literacy; Environment protection skills.

### ABOUT THE PROGRAM:



#### Learning facilities:

Classes, workshops, well-equipped studios and labs using state-of-the-art equipment



#### Requirements:

- Minimum 163 credits
- Marine Transport: 100 credits
- Seagoing Service: 30 credits
- General Studies: 33 credits
- Minimum CGPA of 2.00



#### Job opportunities:

UAE Registered ships, Abu Dhabi ports, PNO Terminals, DP World Terminals, Ministry of Transport, Federal Transport Authorities, TASNEEF etc.



**Average salary upon graduation:**  
30K AED



Program Duration:  
**Bachelor: 4 Academic years**



## MARINE ENGINEERING TECHNOLOGY

### WHY CHOOSE HCT'S BACHELOR OF APPLIED SCIENCE IN MARINE ENGINEERING TECHNOLOGY

The degree program includes the required academic component for the certificates of competency up to Chief Engineer's level. This program educates students in the field of Marine Engineering Technology, to prepare them to work in a wide range of maritime related industries in the UAE including: the offshore industry; shipyards; classifications societies; ship design consultancies; ship owners, and ports.

### KEY SKILLS:

Operation of Modern and sophisticated state of the art ships, Marine Engineering skills, Safety on board skills, Management skills, Communication and information literacy; Environment protection skills.

### ABOUT THE PROGRAM:



#### Learning facilities:

Classes, workshops, well-equipped studios and labs using state-of-the-art equipment



#### Requirements:

- Minimum 169 credits  
Major requirements: 100 credits  
General Engineering: 6 credits  
Sea Time Courses: 30 credits  
General Studies: 33 credits
- Minimum CGPA of 2.00



#### Job opportunities:

Marine engineering officers on UAE-registered ships, Abu Dhabi ports, PNO Terminals, DP World Terminals, Ministry of Transport, Federal Transport Authorities, TASNEEF etc.



**Average salary upon graduation:**  
30K AED





Program Duration:  
**Bachelor:** 4 Academic years

**Diploma:** 2 Academic years



## MARITIME ENGINEERING TECHNOLOGY AND NAVAL ARCHITECTURE

### WHY CHOOSE HCT'S BACHELOR OF APPLIED SCIENCE IN MARITIME ENGINEERING TECHNOLOGY AND NAVAL ARCHITECTURE PROGRAM?

The program provides knowledge and skills to students in the relevant fields, preparing them to contribute to a wide range of maritime related industries in the UAE including: ship building and repair yards; regulatory authorities; classifications societies; ship design consultancies; ship owners, and ports.

### KEY SKILLS:

- Operation of Modern and sophisticated state-of-the-art ships
- Marine Engineering skills
- Safety on board skills
- Management skills
- Communication and information literacy
- Environment protection skills

### ABOUT THE PROGRAM:



#### Learning facilities:

Classes, workshops, well-equipped studios and labs using state-of-the-art equipment



#### Requirements:

- Minimum 169 credits
- Major requirements: 100 credits
- General Engineering: 6 credits
- Sea Time Courses: 30 credits
- General Studies: 33 credits
- Minimum CGPA of 2.00



#### Job opportunities:

Engineering & Technician jobs in the fields of ship building and repair yards; regulatory authorities; classifications societies; ship design consultancies; ship owners, and ports.



#### Average salary upon graduation:

20 – 30K AED





Program Duration:  
**Bachelor:** 4 Academic years



# MECHANICAL ENGINEERING TECHNOLOGY

## WHY CHOOSE HCT'S BACHELOR OF MECHANICAL ENGINEERING TECHNOLOGY (BM CET) PROGRAM

- Strong curriculum with hands on laboratory work
- Mother of all engineering branches
- Forefront of developing future technologies
- Creative profession with an emphasis on improving the world we live in
- Opportunities in almost every branch of industries
- High salaries with evergreen demand

## KEY SKILLS:

- Design, manufacture, test, install and maintain mechanical systems and processes
- Effective use of Computer Aided Drafting, Design and Analysis
- Apply Project Management tools and Health and safety practices
- Evaluate new concepts and information required for Research and Development
- Perform as a team member and a team leader

## ABOUT THE PROGRAM:



### Learning facilities:

Classes, workshops, well-equipped studios and labs using state-of-the-art equipment



### Requirements:

- Minimum 146 credits  
Comprising: 92 credits  
74 core credits, 16 week Work Placement, Electives: 18 credits  
Math & Science: 21 credits  
General Studies: 33 credits
- Minimum CGPA of 2.00



### Job opportunities:

Abu Dhabi Metal Pipes, EGA, Emirates Steel Industries, STRATA, ADEWA, DEWA, ADNOC, Petrofac, ENOC



### Average salary upon graduation:

15 – 30K AED



Program Duration:  
**Bachelor:** 4 Academic years



## MECHATRONICS ENGINEERING TECHNOLOGY

### WHY CHOOSE HCT'S BACHELOR OF MECHATRONICS ENGINEERING TECHNOLOGY (BMTET) PROGRAM?

- Able to design smart systems using the principles of mechanics, electronics and programming.
- Highly qualified mechatronics engineers with state-of-the-art knowledge and technical skills.
- Trained to support the design, development, and maintenance of electro-mechanical systems.

### KEY SKILLS:

Mechatronics combines the skills of mechanics, hydraulic and pneumatic systems, electronic control systems, automation, robotics and programming. The projects will typically include mechanical components, electronic sensors, mechanical and electrical actuators and computer controllers.

### ABOUT THE PROGRAM:



#### Learning facilities:

Classes, workshops, well-equipped studios and labs using state-of-the-art equipment



#### Requirements:

- Minimum 146 credits  
Comprising: 92 credits  
80 core credits, 16 week Work Placement, Electives: 12 credits  
Math & Science: 21 credits  
General Studies: 33 credits
- Minimum CGPA of 2.00



#### Job opportunities:

DEWA, Police, EGA, RTA, MBRSC, DAE, Defense, Boeing, Lockheed Martin and many others



**Average salary upon graduation:**  
20 – 35K AED

## NOTES

# 16

## CAMPUSES ACROSS UAE

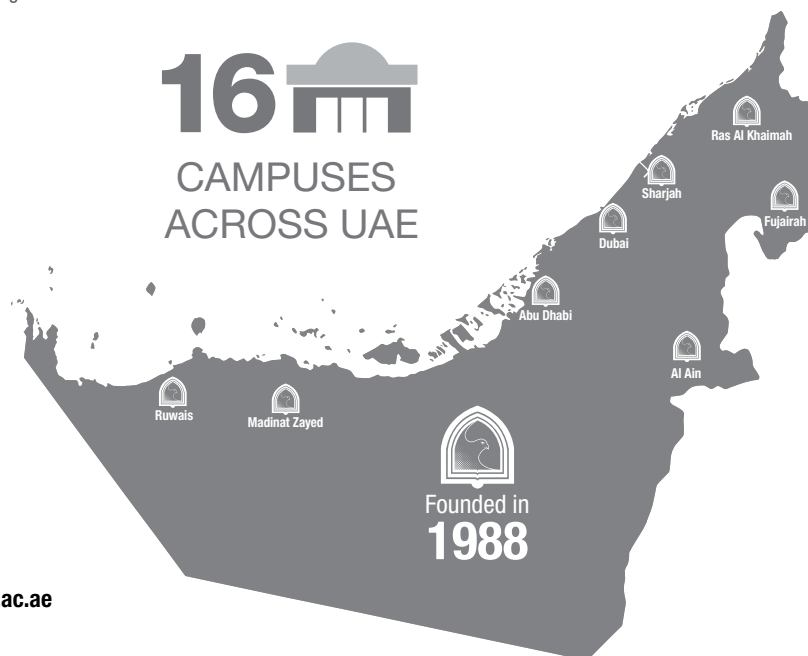
For more information contact one  
of the College admissions offices or:

Central Academic & Student Services Office  
Registrar  
Central Services  
PO Box 25026 Abu Dhabi, UAE

**Tel: +971 2 206 6666**

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**Email: [HCT.admission@hct.ac.ae](mailto:HCT.admission@hct.ac.ae), [myHCTSupport@hct.ac.ae](mailto:myHCTSupport@hct.ac.ae)**



ACADEMIC PROGRAMME / CONCENTRATIONS	OFFERED CAMPUSES															
ENGINEERING TECHNOLOGY & SCIENCE DIVISION Bachelor of Engineering Degree, Concentrations in:	AAM	AAW	ADM	ADW	DBM	DBW	FJM	FJW	MZM	MZW	RKM	RKW	RWM	RWW	SJM	SJW
Aeronautical Engineering Technology		✓														
Aviation Maintenance Technology (Airframe and Aeroengines)			✓		✓											
Aviation Maintenance Technology (Avionics)			✓		✓											
Chemical Engineering Technology			✓								✓	✓				
Civil Engineering Technology			✓		✓											
Electrical Engineering Technology	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
Industrial Engineering Technology				✓		✓										
Engineering Logistics			✓													
Marine Engineering Technology			✓													
Marine Transport			✓													
Maritime Engineering Technology and Naval Architecture			✓													
Mechanical Engineering Technology	✓		✓		✓		✓	✓			✓		✓		✓	✓
Mechatronic Engineering Technology					✓						✓					



## كليات التقنية العليا HIGHER COLLEGES OF TECHNOLOGY

