

# PHYSICS AT UWI, MONA



Overview

Majors

Research

Facilities

New



PHYSICS



## Overview

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# Overview

- A relatively small Department – but a lot to offer!
- Academically challenging environment
- Scope for personal interaction with lecturers and subject area.
- Practical, hands on and fun!
- A different experience
  - You haven't done physics until you've done physics at Mona!

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Earth

M

# 5 Majors



## ■ General Physics

- Theoretical physics
- Education, Higher Research, any career that requires problem solving

## ■ Electronics

- Telecommunications, control systems, engineering type solutions
- Popular electronics/computer science double major

## ■ Materials Science

- Physics of materials
- Industry, Forensics, Standards

MOON

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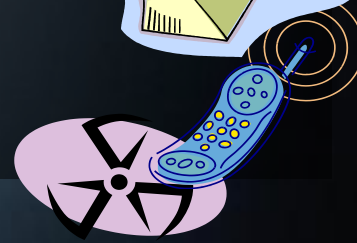
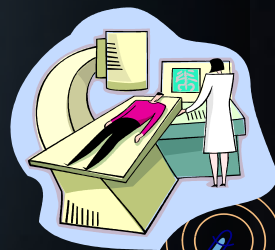
New

# 5 Majors



- **Energy & Environmental Physics**
  - Renewable technology, solar, wind, hydro, integrating energy systems
  - Physics of climate, atmosphere, climate change, fluids, etc.
  - Met Services, Environmental agencies, etc.

- **Medical Physics**
  - Physics in Medicine, Medical Instrumentation



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# Research

## Research groups.

Consist of academic staff, graduate students, **bright undergraduate students** (through final year project)

- Climate Studies Group, Mona (CSGM)**
  - Climate change and variability, computer modelling
- Alternative Energy Research Group**
  - Efficiency of technologies for local context, new technologies, hybrids
- Automatic Speech Recognition**
  - Developing a pronunciation aid for applications like speech therapy



Overview

Majors

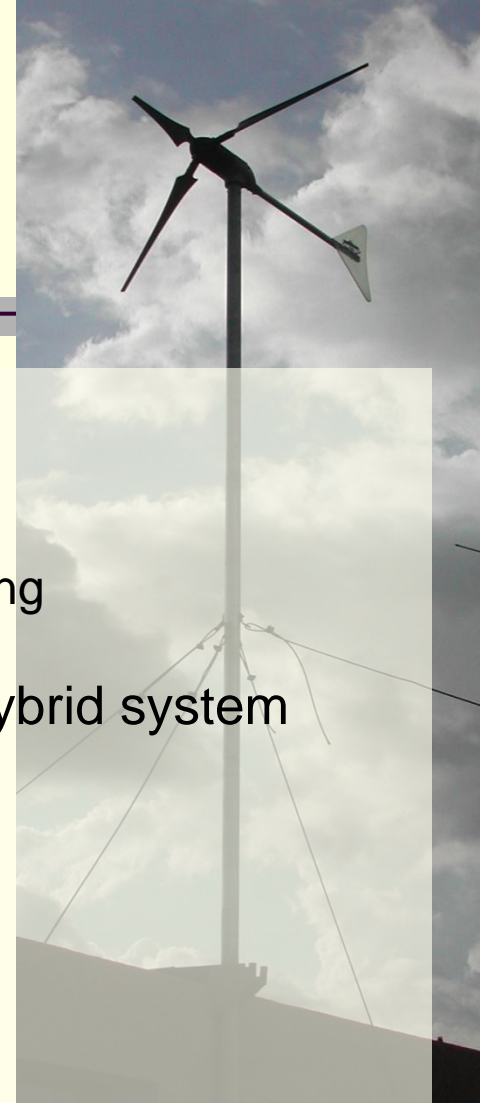
Research

Facilities

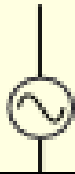
New

# Facilities

- Undergraduate Laboratories
- Virtual Lab
  - Simulation physics and teaching
- Wind turbine – solar panels: Hybrid system powers an undergraduate lab
- Weather station
- Telescope
- Dedicated space for Extra curricular activities
  - Electronics club
  - Ham Radio Club
- Beautiful sign



# New Courses



ENTRY LEVEL	Semester 1 Course code		Semester 2 Course code	
CSEC Physics	PHYS0411	Intro to Mechanics	PHYS0421	Intro to Electricity & Magnetism
	PHYS0412	Intro to Oscillations & Heat	PHYS0422	Intro to Nuclear Physics & Optics
CAPE Physics or CSEC Physics + CAPE Math	PHYS1411 PHYS1412	Mechanics Waves, Optics & Thermodynamics	PHYS1421 PHYS1422  ELET 1400 ELET1405	Electricity & Magnetism Modern Physics  Intro to Electronics Practices in Basic Electronics  <i>(for all majors except Mat Sci)</i>
CAPE Math	MATH1185  MATH1141	Mathematics for Scientists & Engineers Intro to Linear Algebra  <i>Needed to advance to Level 3 Physics</i>	MATH 1141	<i>CAPE Math needed to advance to Level 2 Physics</i>

GND

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# ENGINEERING at MONA





# Programmes

## Now Available:

Electronics Engineering

Computer Engineering

## Expected for 2013-14

Civil Engineering

Electrical Power Engineering

## Future programmes

Aeronautical Engineering

Others (base on demand)



# Entry Requirements

## 3 year programme

- Matriculation into Level 1
  - CAPE Math & Physics with Minimum of Grade 3, or
  - A'Level Maths and Physics minimum of C, or
  - Associate Degree in relevant engineering programme, min GPA = 2.5

## 4 year programme

- Entrance into Preliminary year
  - Did Math and Physics at CAPE or A'Level but did not get the required grades
  - Did associate degree but GPA < 2.5
  - At least 2 years working experience and relevant CSECs



Overview

# Physics Honour Society



Majors

- Participation is by invitation.

Research

- Students with at least a B+ average in Physics (and have not failed any course)

Facilities

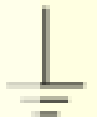
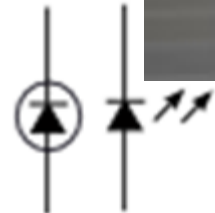
New

- Breakfast Treats twice each semester with interesting speakers
- Certificates, pens, pins and bookstore voucher
- After 2 consecutive semesters, guaranteed summer employment in the department for a month doing research

R1

S1

GND



# Electronics Club/Electronics Engineering

- Participated in the IEEE SoutheastCon 2012 Hardware Competition
- Placed 17<sup>th</sup> among 48 universities

IEEE SoutheastCon 2012 Hardware Competition Sum...

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[Finals](#)

School Name	Team Name	Qualified	Run 1	Run 2	Run 3	Average	Final
<a href="#">FAMU-FSU College of Engineering</a>	i-GAR	Yes	560	560	550	556	550
<a href="#">University of Alabama at Birmingham</a>	University of Alabama at Birmingham	Yes	330	150	270	250	480
<a href="#">University of South Alabama</a>	57494E4E494E47	Yes	300	270	250	273	420
<a href="#">Auburn University</a>	Auburn SPaRC	Yes	150	350	320	273	380
<a href="#">University of West Florida</a>	Argonauts	Yes	260	230	210	233	380
<a href="#">University of Alabama</a>	University of Alabama	Yes	280	340	350	323	360
<a href="#">Mississippi State University</a>	Mississippi State University	Yes	300	310	340	316	320
<a href="#">DeVry University - Orlando</a>	Overunity	Yes	340	120	240	233	200
<a href="#">Western Carolina University</a>	Western Carolina University	Yes	120	210	210	180	
<a href="#">Murray State University</a>	Racers	Yes	110	280	130	173	
<a href="#">University of North Carolina at Charlotte</a>	UNC Charlotte Hardware Team 1	Yes	150	80	220	150	
<a href="#">University of Tennessee</a>	VolTs	Yes	150	200	90	146	
<a href="#">Pellissippi State Community College</a>	Prowling Panthers	Yes	120	160	130	136	
<a href="#">UNC-Asheville</a>	Team America	Yes	120	150	130	133	
<a href="#">Virginia Military Institute</a>	Virginia Military Institute	Yes	90	120	180	130	
<a href="#">University of Florida</a>	Flaming Grape	Yes	120	100	170	130	
<a href="#">University of the West Indies Mona</a>	University of the West Indies Mona	Yes	90	170	90	116	
<a href="#">Florida Institute of Technology</a>	FIT-IEEE	Yes	120	100	120	113	
<a href="#">Western Kentucky University</a>	Western Kentucky University	Yes	100	110	130	113	
<a href="#">University of Tennessee at Martin</a>	Skyhawks	Yes	110	110	120	113	
<a href="#">University of North Florida</a>	The A Team	Yes	120	100	120	113	
<a href="#">University of Louisville</a>	University of Louisville	Yes	110	110	120	113	
<a href="#">University of Alabama in Huntsville</a>	Charger IEEE	Yes	120	110	110	113	
<a href="#">University of South Florida</a>	USF-Robotics Team	Yes	100	110	120	110	
<a href="#">University of Memphis</a>	Tiger Robotics	Yes	110	100	120	110	
<a href="#">Georgia Southern University</a>	Eagle Robotics	Yes	100	120	110	110	
<a href="#">Christian Brothers University</a>	CBU Robotics	Yes	110	110	100	106	
<a href="#">North Carolina A&amp;T State University: School of Technology</a>	AggieBot	Yes	100	110	110	106	



# To The Aspiring Medical Physicists

- M.Sc./Postgraduate Diploma in Medical Physics launched.
- Jobs in radiotherapy, diagnostic imaging and nuclear medicine, teaching, consultancies



THE UNIVERSITY OF THE WEST INDIES  
MONA, JAMAICA



FACULTY OF PURE AND APPLIED SCIENCES,  
DEPARTMENT OF PHYSICS

**MASTER/DIPLOMA IN MEDICAL PHYSICS**