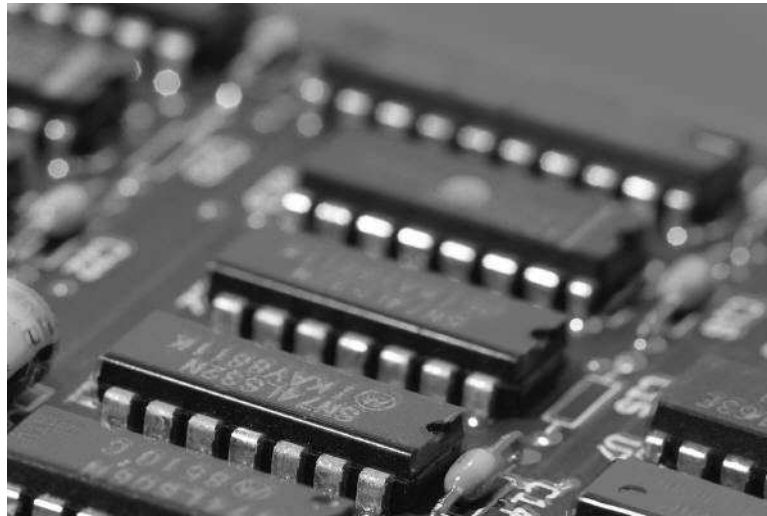


*Electrical and Computer Engineering*  
at Memorial University



Chair: Dr. Howard Heys

# Programs

## **Undergraduate**

- Electrical Engineering (with option in Offshore Oil and Gas Engineering)
- Computer Engineering (with option in Offshore Oil and Gas Engineering)

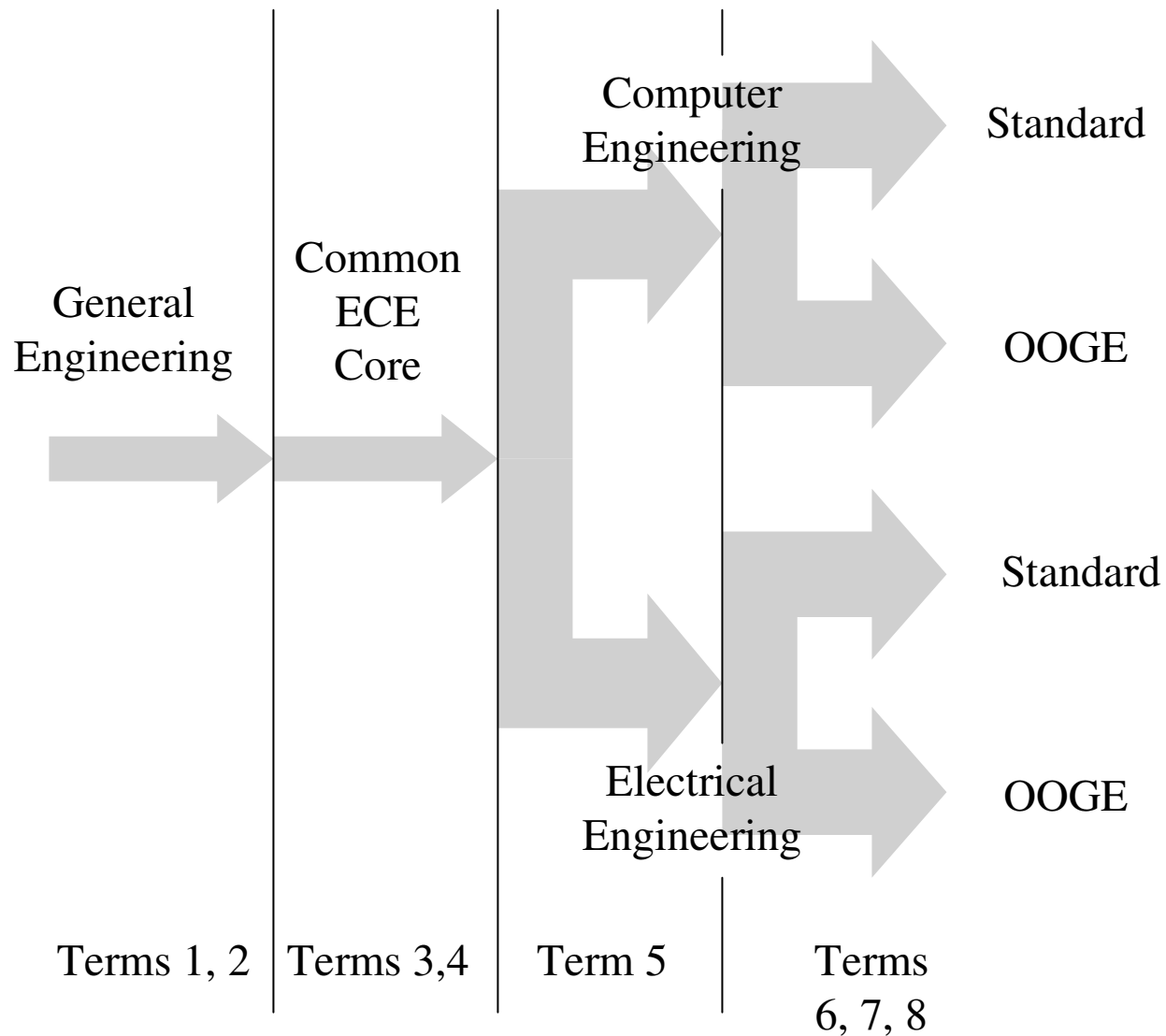
## **Graduate**

- thesis-based programs in Electrical and Computer Engineering
- course-based Master of Applied Science in Computer Engineering

## **Research**

- active research in many areas of Electrical and Computer Engineering including digital hardware applications, software design methodologies, image processing, remote sensing, controls and instrumentation, power systems

# Undergraduate Program Flow



# Electrical Engineering Courses

Electrical Engineering has required and elective courses in the following:

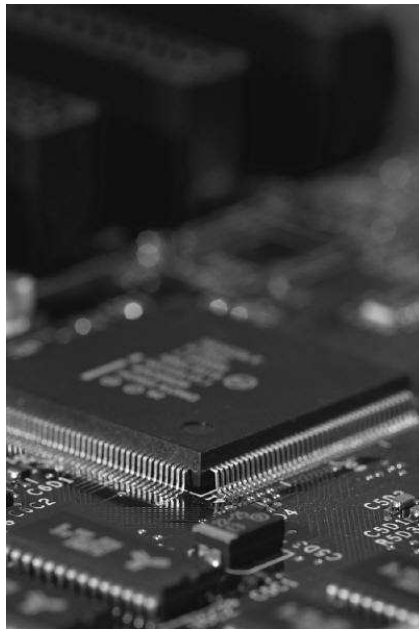
- electromagnetics and antennas
- power systems and electrical machines
- control systems and instrumentation
- signal processing, communications, and networks
- electronics: analog and digital



OUGE option emphasizes supervisory control, data acquisition, and process control in the context of offshore oil and gas

# Computer Engineering Courses

Computer Engineering has required and elective courses in the following:



- software design and software engineering
- digital hardware design
- computer architecture and operating systems
- signal processing, communications, and networks
- control systems and instrumentation

OUGE option emphasizes supervisory control, data acquisition, and process control in the context of offshore oil and gas

# Graduate Programs

## **Master of Engineering**

(Thesis-based ECE Program )

- about 50 full time graduate students (35 M.Eng, 15 PhD)
- areas of focus include

Digital Hardware Applications

Software Engineering

Multimedia and Wireless Communications

Instrumentation, Control, and Automation

Power Systems

Remote Sensing

## **Master of Applied Science in Computer Engineering**

(Course-based Computer Engineering Program)

- targeted at international students beginning Jul. 2004
- enrolment of 15 to 20 students each year

# Careers in Electrical Engineering

## Areas

- power generation, transmission, distribution, and utilization
- electronics, instrumentation and control
- communications and remote sensing

## Sample Industries

- power utilities
- telecommunications
- oil & gas sector
- niche-technology companies

## Companies

NL Hydro, NF Power, Aliant, Lotek Wireless, Rutter Technologies, Instrumar, Stratos Global, Ontario Hydro, Petro-Canada, Cathexis, BlueLine, C-CORE, Guigne, Iron Ore Company, ...

# Careers in Computer Engineering

## Areas

- software development
- communications and networks
- computer systems and digital hardware development
- instrumentation and control

## Sample Industries

- computer manufacturing and services
- telecommunications and computer network manufacturing
- information technology
- oil & gas sector
- niche-technology companies

## Companies

Consilient, NavSim, RIM, Aliant, IBM, PMC Sierra, Nortel, Alcatel, Verafin, Cadence, Cisco, ...

# Guests

- Mr. Jonathan Anderson, MUN Graduate Student  
B.Eng. 2006, Computer Engineering  
M.Eng., expected soon