

5. Electrical Engineering

YEAR 1

Semester 1		Semester 2	
CHEM181 Chemistry for Engineers 1A or	(8)	CHEM191 Chemistry for Engineers 1B or	(8)

CHEM163 Chemistry & Society 1 (8)	CHEM173 Chemistry & Society 2 (8)
ENCH1TC Tech. Communication for Engineers (8)	ENEL1ED Electrical Design 1 (8) or ENAG1DE Introduction to Engineering Design (8)
ENME1DR Engineering Drawing (8)	ENME1EM Intro. to Engineering Materials (8) or ENAG1MT Intro. to Engineering Materials (8)
MATH131 Mathematics 1A(Eng) (16)	MATH141 Mathematics 1B(Eng) (16)
MATH132 Applied Mathematics 1A(Eng) (16)	MATH142 Applied Mathematics 1B(Eng) (16)
PHYS151 Engineering Physics 1A (16) or PHYS110 Mech., Optics & Thermal Phys (16)	PHYS120 Electromag, Waves & Mod. Phys (16) or PHYS152 Engineering Physics 1B (16)

YEAR 2

Semester 1	Semester 2
ENEL2CA Computer Methods 1 (8)	ENEL2CB Computer Methods 2 (8)
ENEL2EA Electrical Principles 1 (16)	ENEL2EB Electrical Principles 2 (16)
ENME2MS Material Strengths (8)	ENEL2ED Electrical Design 2 (8)
ENME2TF Thermofluids (8)	ENEL2EN Environmental Engineering (8)
MATH238 Mathematics 2A(Eng) (16)	ENEL2FT Field Theory (8)
MATH239 Applied Finite Mathematics (8)	ENEL2NP Nuclear & Semiconductor Physics (8)
PHYS251 Optics and Wave Motion (8)	MATH248 Mathematics 2B(Eng) (16)
	ENEL2WS Workshop Training (DP)

YEAR 3

Semester 1	Semester 2
ENCH4ML Engineering Mgmt & Labour Relns (8)	ENEL3AE Analogue Electronics 2 (8)
ENEL3EA Electrical Design 3 (8)	ENEL3CS Control Systems 1 (8)
ENEL3DS Digital Systems (16)	ENEL3DE Digital Electronics (8)
ENEL3MA Electrical Machines 1 (8)	ENEL3EB Electrical Design 4 (8)
ENEL3SS Systems and Simulation (8)	ENEL3EM E-M Theory (8)
ENEL3TA Analogue Electronics 1 (8)	ENEL3MB Electrical Machines 2 (8)
MATH354 Mathematics 3 (Eng) (8)	ENEL3PE Power Electronics 1 (8)
STAT370 Engineering Statistics (8)	ENEL3PS Power Systems 1 (16)

YEAR 4

Semester 1	Semester 2
Compulsory modules	
ENEL4EA Electrical Design 5 (24)	ENEL4EB Engineering Business (8)
ENEL4EE Engineering Entrepreneurship (8)	ENEL4EP Electrical Design Project (32)
	ENEL4VW Vacation Work (DP)

Two 8C or one 16C module from outside the College taken in either semester and chosen with approval of the School.	
Optional modules. These must be chosen to account for 56C in total. At least one of these modules must be a self-study module.	
Between 40C and 56C from	
ZULUN101 Basic isiZulu Language Studies A (16)	ENEL4HB High Voltage Engineering 2 (8)
ENEL4CS Control Systems 2 (8)	ENEL4MB Electrical Machines 4 (8)
ENEL4HA High Voltage Engineering 1 (8)	ENEL4PB Power Electronics 3 (self-study) (8)
ENEL4MA Electrical Machines 3 (8)	ENEL4SS Power System Stability (8)
ENEL4PA Power Electronics 2 (8)	ENEL4WB Power Systems 3 (self-study) (8)
ENEL4WA Power Systems 2 (8)	
Between 0 and 16C from	
ENEL4IN Instrumentation (8)	ENEL4AM Automation (8)
ENEL4SA Selected topics in Electrical Engineering 1 (self-study) (8)	ENEL4ES Embedded Systems (8)
	ENEL4IL Illumination (8)
	ENEL4OR Operations Research (8)
	ENEL4SB Selected topics in Electrical Engineering 2 (self-study) (8)