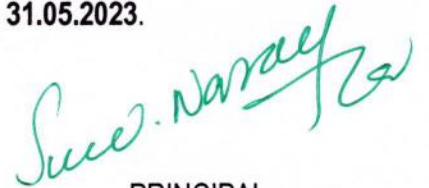# ANNAMACHARYA INSTITUTE OF TECHNOLOGY AND SCIENCES
RAJAMPET-516126

Date: 29.03.2023

NOTIFICATION
****

All the **II B.Tech II** Semester students are hereby informed that the list of courses attached is offered for Honors / Minors by the respective departments in **III B.Tech I** Semester from the academic year 2023-24 onwards.

Hence, all the eligible students are hereby informed to register the courses by submitting the filled in course registration form to their respective Head of the Department on or before **31.05.2023**.

PRINCIPAL

Copy to: All HODs with a request to conduct the class work as per the academic calendar for **III B.Tech I semester** and submit a copy of time table to the undersigned by **17.07.2023**.

Copy to: Administrative Officer for information, to maintain separate ledger for minors / honors fee receipts

Copy to: MOOCs / NPTEL Coordinator with a request to coordinate with HODs for effective utilizations of MOOCs / NPTEL courses

Cop to: Examination Cell for information

Incls: 1. Registration From and Rules of Minors / Honors courses
2. Minor / Honors course List

ANNAMACHARYA INSTITUTE OF TECHNOLOGY AND SCIENCES
RAJAMPET-516126

COURSE REGISTRATION FORM FOR B.TECH HONORS / MINORS

Semester of Study (III-I, III-II, IV-I, IV-II)
(Please select the applicable semester of study)

1. Name of the Student   :
   (In Block Letters)

2. Name of the Parent   :

3. Roll Number   :

4. Contact Number   :

5. Mail ID   :

6 SGPA /CGPA in B. Tech   :
   (Till date)

Semester	I - I	I - II	II - I
SGPA			
CGPA			

	Affix Recent Passport Size Photograph

I would like to register for the following additional Courses during my B. Tech programme in respect of B. Tech in MINORS / HONORS in **III-I, III-II, IV-I and IV-II** Semesters

Name of the Course 1   :

Name of the Course 2   :

Name of the Course 3   :

Name of the Course 4   :

Name of the MOOCs Courses   :

NOTE:
1. Student can choose maximum of two courses per semester
2. The student needs to submit original copy of the registration form in duplicate to the respective HOD where the course is pursued.

SIGNATURE OF STUDENT

SIGNATURE OF THE HEAD OF THE DEPARTMENT

Date:

Date: 29-03-2023

HONORS DEGREE RULES

A Honors allows a student to take advantage of the extensive course offers from the department. Similar to majors, one must complete all courses prescribed for the Honors by the respective department and must earn a minimum of **8.0** SGPA in all courses required for the honors.

Honors must be completed simultaneously with a major degree program. As the honors must be completed along with a major, any outstanding honors requirements will prevent the awarding of the degree for major. If a student ultimately decides to graduate without the honors, the honors will be removed from his/her records before the degree is processed.

The following are the list of B.Tech. (Honors) programs offered by AITS

- B.Tech. (honors) in Computer Science and Engineering
- B.Tech. (honors) in Electronics and Communication Engineering
- B.Tech. (honors) in Electrical and Electronics Engineering
- B.Tech. (honors) in Mechanical Engineering
- B.Tech. (honors) in Civil Engineering
- B.Tech. (honors) in Artificial Intelligence and Data Science
- B.Tech. (honors) in Artificial Intelligence and Machine Learning

Eligibility for Honors

A student is eligible for B. Tech. Degree with honors, subject to the following:

- One should have an SGPA of 8.0 or higher at the end of 4th semester to register for honors program and maintain a SGPA of 8.0 at the time of award of degree.
- In addition to fulfilling all the requisites of a Regular B.Tech Programme, a student shall earn 20 additional credits to be eligible for the award of B.Tech (Honors) degree. This is in addition to the credits essential for obtaining the Under Graduate Degree in Major Discipline (i.e. 160 credits).
- Of the 20 additional Credits to be acquired, 16 credits shall be earned by undergoing specified courses listed as pools, with four courses, each carrying 4 credits. The remaining 4 credits must be acquired through two MOOCs, which shall be domain specific each with 2 credits and with a minimum duration of 8 to 12 weeks as recommended by the Board of studies.
- He/ She must acquire the additional credits by overloading during a regular semester or summer semester.
- If necessary, the student can use options like reappearing for the examination in failed 'honors' course again in the subsequent semester.

- In case, a student fails to meet the SGPA requirement at the time of award of degree or withdraws the degree with honors at any point after registration, he/she will be dropped from the list of students eligible for degree with honors and they will receive B.Tech. degree only. However, the additional courses completed by them will be mentioned in their grade sheet.
- Students have to pay extra fee for all the courses registered for honors.
- The grades obtained in the courses credited towards the honors award are not counted and shall have no influence on the GPA/ CGPA of the main 'program' for which the student has registered.

Process of Admission

A student must declare his/her option to pursue a honors in the Department before the beginning of third year of his/her enrolment. Coursework completed before admission into the honors program would be applicable towards the honors requirements. The Dean Academics Office will announce those who are admitted.

Fee

Each student admitted to honors for Academic Year 2022-23 must pay a fee of Rs. 12,500 in addition to fees for the semesters enrolled in. The fee is payable in two installments – Rs. 6,250 at the time of admission and Rs. 6,250 on completion of two courses prescribed for the honors.

Credits Required and Overlaps

In order to earn a honors, a student has to earn a minimum of 20 additional credits from a basket of courses prescribed by the respective department. Courses for the honors should be unique and should not overlap with your major or another minor requirement.

Advising

If you have any questions about the requirements to complete honors, you should consult the advisor in the department.

Completion of honors

A honors must be awarded at the time of the awarding a bachelor's degree and it will be posted on the transcript of student.

The final transcript will only show the basic CGPA corresponding to the minimum requirement for the degree. The Minors/Honors will be indicated by a separate CGPA. The additional courses taken will also find separate mention in the transcript.

If a student drops out / withdraws (or terminated) from the Minor/Honor's program, the credits earned cannot be converted into program electives and will remain extra. These additional courses will find mention in the transcript but not in the degree certificate.

The different options of the degree certificate are as follows:

- B.Tech (honors) in XYZ Engineering with a Minor in ABC (If a student pursues both honors & Minor).
- B.Tech (honors) in XYZ Engineering with a Specialization in UVW (If a student pursues a specialization and honors).
- B.Tech (honors) in XYZ engineering with (If a student pursues a honors)

* * *

PRINCIPAL

ANNAMACHARYA INSTITUTE OF TECHNOLOGY AND SCIENCES:: RAJAMPET
(An AUTONOMOUS Institution)
Thallapaka Panchayath, New Boyanapalli, RAJAMPET, Annamayya District
(Formerly Kadapa Dist.), A.P.-516 126

(Approved by A.I.C.T.E, New Delhi & Affiliated to Jawaharlal Nehru Technological University, Anantapur)
B.Tech. EEE, ECE & CSE courses Accredited by NBA. Institute Accredited by NAAC with 'A' Grade
Recognized by UGC, New Delhi under section 2(f) & 12(B)
Ph. (08565) 251861/63, Fax (08565) 251864. E-mail: aitsap@yahoo.co.in / aitsrajampet1998@gmail.com. Web: www.aitsrajampet.ac.in

Date: 29-03-2023

MINORS DEGREE RULES

Unlike the "traditional" Institutions, Annamacharya Institute of Technology and Sciences (AITS), Rajampet offers a choice of Major and Minors.

Every undergraduate student at AITS can earn a minor degree by successfully earning 20 credits from a basket of courses prescribed for each Minor. This additional coursework is done from a discipline different from the student's original main discipline.

A Minor gives a student the chance to pursue his/her interest on personal level though the subjects that are not related to Major course/stream of his/her study and that opens opportunities for interdisciplinary programs in Masters that one has penchant for and engage himself into and also for better placements. Out of the 20 credits, 16 credits shall be earned by undergoing specified courses listed by the concerned BoS along with prerequisites. It is the responsibility of the student to acquire/complete prerequisite before taking the respective course. If a course has lab component, that component has to be cleared separately. A student shall be permitted to choose only those courses that he/she has not studied in any form during the programme.

Rules and Regulations

A Minor allows the students to take advantage of the available multiple subjects / variety of subjects across the institution. There are a few rules to keep in mind while pursuing a minor. Similar to majors one should complete all courses for a minor at Annamacharya Institute of Technology and Sciences and must earn a minimum of **8.0 SGPA** in all courses pursued for the minor. Minors must be completed simultaneously with the major degree program. Incomplete / outstanding minor requirements will prevent the award of the major degree. If the student wants to graduate without the minor, the subjects completed by the student under minor will not be considered for the regular degree.

Eligibility for Minors

All programs offer Minors in their disciplines and the departments prescribe the set of courses necessary for earning a minor in that particular discipline. A student is eligible for UG Degree with a Minor, subject to the following.
- He/She should have an SGPA of 8.0 or higher at the end of 4th semester (applicable only for B.Tech students) to register for minor program and maintain an SGPA of 8.0 at the time of award of degree. In SGPA of 8.0 has to be maintained in the subsequent semesters without any backlog in order to keep the Minors registration active.
- He/She should successfully acquire a minimum of 16 additional credits duly registering for the courses offered by other department. However, his/her open electives can be counted for minor degree as well.

- In addition to the 16 credits, students must pursue at least 2 courses through MOOCs. The courses must be of minimum of 8 weeks in duration. Attendance will not be mandatory for MOOC courses. Student has to acquire a certificate form the agencies approved by the BOS with grading or marks or pass in order to earn 4 credits. If the MOOCS provider issues a pass certificate without any grades, the grade / marks will be assigned to that MOOCS course as decided by the Academic council.
- He/She must acquire the additional credits for minors during the regular semester or summer semester.
- If any of the courses listed under the minor option is a course listed under his/her curriculum as program core, then the student cannot opt for the that minor, since all minor courses need to be completed as additional courses to his/her main program curriculum.
- If necessary, the student may use options like registering for the failed minor course again in the subsequent semester.
- Students have to pay extra fee for all the courses registered for minor.
- The grades obtained in the courses credited towards the minor degree award are not considered and have no bearing on the calculation of SGPA/CPGA of the main U.G. program for which the student has registered.
- In case, a student fails to meet the CGPA required or withdraws from the Minors at any point after registration, he/she will be dropped from the list of students eligible for degree with minor and they will receive B.Tech degree only. However, the additional courses completed by them will be mentioned in their grade sheet.

In addition to the admission requirements, all the minor courses must be selected from other departments only. (Minor that are made up exclusively of courses from a single department may not be taken up by students majoring in that department)

Process of Admission

A student must declare his/her option to pursue a minor in the department before the commencement of third year of his/her enrolment, in case of B.Tech. Performance of student in course work completed before admission into the minor program will be considered for the minor requirements. The Dean Academics Office will finalize the list of students admitted for minors. A student will be permitted to pursue only one minor program along with B.Tech. course.

Fee

Each student admitted in to a minor for the academic year 2022-23 must pay a fee of Rs.12, 500/- in addition to fees for the semesters enrolled in. The fee is payable in two installments - Rs.6, 250/- at the time of admission and Rs. 6, 250/- on completion of two courses prescribed for the minor.

Credits Required and Overlaps Allowed

In order to earn a Minor, a Student has to earn a minimum of 20 credits from a basket of courses prescribed for each minor stream / program. Courses for the minor can overlap with the major requirements.

Advising

If the students have any questions about the requirements to be completed for a minor they should consult the advisor in the department offering the minor.

Completion of a Minor

A minor will be awarded to the student at the time of awarding his/her bachelor's degree. Minors will be posted on the transcript and the student will receive a separate minor certificate for each minor program completed.

The final transcript will only show the basic CGPA corresponding to the minimum requirement for the degree. The Minors/Honors will be indicated by a separate CGPA. The additional courses taken will also find separate mention in the transcript.
If a student drops out / withdraws (or terminated) from the Minor/Honors program, the credits earned cannot be converted into program electives and will remain as extra credits only. These additional courses will find mention in the transcript but not in the degree certificate.

The different options of the degree certificate are as follows:

- B.Tech (Hons) in XYZ Engineering with a Minor in ABC (if a student pursues both honors & Minor)
- B.Tech in XYZ Engineering with Minor in ABC (if a student pursues a Minor)
- B.Tech in XYZ Engineering with Minor in ABC and Minor in DEF (if a student pursues two Minors)

* * *

PRINCIPAL

ANNAMACHARYA INSTITUTE OF TECHNOLOGY AND SCIENCES

(Autonomous)

Department Artificial Intelligence and Data Science

Minors

S.NO	COURSE NAME	L-T-P	CR	OFFERED BY
TRACK-1- Computer Systems and Programming				
1	Data Structures and Algorithms	3-1-0	4	AI&DS
2	Database Fundamentals	3-1-0	4	AI&DS
3	Fundamentals of Computer Networks	3-1-0	4	AI&DS
4	Fundamentals of Operating Systems	3-1-0	4	AI&DS
5	Computer Organization	3-1-0	4	AI&DS
6	Principles of Programming Languages	3-1-0	4	AI&DS
TRACK-2 – Cyber Security				
1	Fundamentals of Security	3-1-0	4	AI&DS
2	Network Security	3-1-0	4	AI&DS
3	Management of Information Security	3-1-0	4	AI&DS
4	Cyber Security	3-1-0	4	AI&DS
5	Forensic Science	3-1-0	4	AI&DS
6	Cloud Security	3-1-0	4	AI&DS
TRACK-3- Artificial Intelligence and Machine Learning				
1	Fundamentals of Artificial Intelligence	3-1-0	4	AI&DS
2	Fundamentals of Machine Learning	3-1-0	4	AI&DS
3	Soft Computing	3-1-0	4	AI&DS
4	Natural Language Processing	3-1-0	4	AI&DS
5	Feature Engineering for Machine Learning	3-1-0	4	AI&DS
6	Real Time Systems	3-1-0	4	AI&DS
TRACK-4 – Data Science and Analytics				
1	Data Engineering	3-1-0	4	AI&DS
2	Web Mining	3-1-0	4	AI&DS
3	Exploratory Data Analytics	3-1-0	4	AI&DS
4	Social Media Analytics	3-1-0	4	AI&DS
5	Algorithms for Data Analysis	3-1-0	4	AI&DS
6	Data Visualization Techniques	3-1-0	4	AI&DS

Honors

S.NO	COURSE NAME	L-T-P	CR	OFFERED BY
POOL-A				
1	Mobile Communications	3-1-0	4	AI & DS
2	.NET Technologies	3-1-0	4	AI & DS
3	Performance Evaluation of Computer Systems	3-1-0	4	AI & DS
4	Web Services	3-1-0	4	AI & DS
POOL-B				
1	DevOps	3-1-0	4	AI & DS
2	Design Patterns	3-1-0	4	AI & DS
3	Data Lake	3-1-0	4	AI & DS
4	Robotic Process Automation	3-1-0	4	AI & DS
POOL-C				
1	Fundamentals of Systems Security	3-1-0	4	AI & DS
2	Python Programming for Security	3-1-0	4	AI & DS
3	Management of Information Security	3-1-0	4	AI & DS
4	Bio Informatics	3-1-0	4	AI & DS
POOL-D				
1	Computer Graphics	3-1-0	4	AI & DS
2	Multimedia Systems	3-1-0	4	AI & DS
3	Human Computer Interaction	3-1-0	4	AI & DS
4	Data Science in Medical Imaging	3-1-0	4	AI & DS

ANNAMACHARYA INSTITUTE OF TECHNOLOGY AND SCIENCES
(Autonomous)
Department of Artificial Intelligence & Machine Learning
Honors

S.NO	COURSE NAME	L-T-P	CR	OFFERED BY
POOL-A				
1	DevOps	3-1-0	4	AI&ML
2	Advanced data structures	3-1-0	4	AI&ML
3	Data lake	3-1-0	4	AI&ML
4	Robotic Process Engineering	3-1-0	4	AI&ML
POOL-B				AI&ML
1	Mobile communication	3-1-0	4	AI&ML
2	.NET Technologies	3-1-0	4	AI&ML
3	Web Services	3-1-0	4	AI&ML
4	Performance Evaluation of Computer Systems	3-1-0	4	AI&ML
POOL-C				AI&ML
1	Fundamentals of System Security	3-1-0	4	AI&ML
2	Python program for security	3-1-0	4	AI&ML
3	Management Information Security	3-1-0	4	AI&ML
4	Bio Informatics	3-1-0	4	AI&ML
POOL-D				AI&ML
1	Computer Graphics	3-1-0	4	AI&ML
2	Human Computer Interaction	3-1-0	4	AI&ML
3	Multimedia Systems	3-1-0	4	AI&ML
4	Computer Vision	3-1-0	4	AI&ML

ANNAMACHARYA INSTITUTE OF TECHNOLOGY AND SCIENCES
(Autonomous)
Department of Artificial Intelligence & Machine Learning
Minors

S.NO	COURSE NAME	L-T-P	CR	OFFERED BY
TRACK-1- Computer Systems and Programming				
1	Data Structures and Algorithms	3-1-0	4	AI&ML
2	Database Fundamentals	3-1-0	4	AI&ML
3	Fundamentals of Computer Networks	3-1-0	4	AI&ML
4	Fundamentals of Operating Systems	3-1-0	4	AI&ML
5	Computer Organization	3-1-0	4	AI&ML
6	Principles of Programming Languages	3-1-0	4	AI&ML
TRACK-2 – Cyber Security				
1	Fundamentals of Security	3-1-0	4	AI&ML
2	Network Security	3-1-0	4	AI&ML
3	Management of Information Security	3-1-0	4	AI&ML
4	Cyber Security	3-1-0	4	AI&ML
5	Forensic Science	3-1-0	4	AI&ML
6	Cloud Security	3-1-0	4	AI&ML
TRACK-3- Artificial Intelligence and Machine Learning				
1	Fundamentals of Artificial Intelligence	3-1-0	4	AI&ML
2	Fundamentals of Machine Learning	3-1-0	4	AI&ML
3	Soft Computing	3-1-0	4	AI&ML
4	Natural Language Processing	3-1-0	4	AI&ML
5	Feature Engineering for Machine Learning	3-1-0	4	AI&ML
6	Real Time Systems	3-1-0	4	AI&ML
TRACK-4 – Data Science and Analytics				
1	Data Engineering	3-1-0	4	AI&ML
2	Web Mining	3-1-0	4	AI&ML
3	Exploratory Data Analytics	3-1-0	4	AI&ML
4	Social Media Analytics	3-1-0	4	AI&ML
5	Algorithms for Data Analysis	3-1-0	4	AI&ML
6	Data Visualization Techniques	3-1-0	4	AI&ML

R20 - List of Subjects for B.Tech (Minor) in Civil Engineering

Sl. No.	Name of the Course	L-T-P	Credits	Pre-Requisite	Offered to
1	Traffic Engineering	3-1-0	4	NIL	Any Other Branch Students
2	Advanced Concrete Technology	3-1-0	4	NIL	
3	Mechanics of Materials	3-1-0	4	NIL	
4	Building and Construction Materials, Concrete Technology	3-1-0	4	NIL	
5	Soil Mechanics	3-1-0	4	NIL	
6	Hydrology And Water Resources	3-1-0	4	NIL	

R20 - List of Subjects for B.Tech (Honors) in Civil Engineering

Pool 1: CONSTRUCTION MANAGEMENT					
Sl. No.	Name of the Course	L-T-P	Credits	Pre-Requisite	Offered to
1	Principles of Construction and Management	3-1-0	4	NIL	CE Branch Students
2	Project Management for Managers	3-1-0	4	NIL	
3	Management Information System	3-1-0	4	NIL	
4	Working Capital Management	3-1-0	4	NIL	

Pool 2: URBAN INFORMATICS					
Sl. No.	Name of the Course	L-T-P	Credits	Pre-Requisite	Offered to
1	Urban governance and Development Management (UGDM)	3-1-0	4	Basic knowledge in Civil Engineering	CE Branch Students
2	Urban Land use and Transportation Planning	3-1-0	4	Basic knowledge in Urban Planning	
3	Housing Policy & Planning	3-1-0	4	Nil	
4	Introduction to Multimodal Urban Transportation Systems (MUTS)	3-1-0	4	Nil	

SI. No.	Name of the Course	L-T-P	Credits	Pre-Requisite	Offered to
Pool 3: ARCHITECTURE				
1	Building Materials and Composites	3-1-0	4	Nil	CE Branch Students
2	Indian Vastushastra	3-1-0	4	Nil	
3	Role of Craft and Technology in Interior - Architecture	3-1-0	4	Nil	
4	Structural System in Architecture	3-1-0	4	Nil	

SI. No.	Name of the Course	L-T-P	Credits	Pre-Requisite	Offered to
Pool 4: INNOVATION AND ENTREPRENEURSHIP				
1	Design Thinking and Creativity for Innovation	3-1-0	4	Nil	CE Branch Students
2	Design, Technology and Innovation	3-1-0	4	Nil	
3	Entrepreneurship for Engineers	3-1-0	4	Nil	
4	Patent Law for Engineers and Scientists	3-1-0	4	Nil	

ANNAMACHARYA INSTITUTE OF TECHNOLOGY AND SCIENCES::RAJAMPET
(Autonomous)
Department Computer Science and Engineering

Honors

S.NO	COURSE NAME	L-T-P	CR	OFFERED BY
POOL-A				
1	DevOps	3-1-0	4	CSE
2	Design Patterns	3-1-0	4	CSE
3	Advanced Software Engineering	3-1-0	4	CSE
4	Robotic Process Automation	3-1-0	4	CSE
POOL-B				
1	Optimization Techniques	3-1-0	4	CSE
2	AngularJS	3-1-0	4	CSE
3	Software Defined Networks	3-1-0	4	CSE
4	Social Media Analytics	3-1-0	4	CSE
POOL-C				
1	Advanced Data Structures	3-1-0	4	CSE
2	Advanced Data Mining	3-1-0	4	CSE
3	Scalable Algorithms for Data Analysis	3-1-0	4	CSE
4	Data Lake	3-1-0	4	CSE
POOL-D				
1	Natural Language Processing	3-1-0	4	CSE
2	Cyber Forensic Science	3-1-0	4	CSE
3	Multimedia Systems	3-1-0	4	CSE
4	Computer Vision	3-1-0	4	CSE

Minors

S.NO	COURSE NAME	L-T-P	CR	OFFERED BY
TRACK-1- Computer Systems and Programming			
1	Data Structures and Algorithms	3-1-0	4	CSE
2	Database Fundamentals	3-1-0	4	CSE
3	Fundamentals of Computer Networks	3-1-0	4	CSE
4	Fundamentals of Operating Systems	3-1-0	4	CSE
5	Computer Organization	3-1-0	4	CSE
6	Principles of Programming Languages	3-1-0	4	CSE
	TRACK-2 – Cyber Security			
1	Fundamentals of Security	3-1-0	4	CSE
2	Network Security	3-1-0	4	CSE
3	Management of Information Security	3-1-0	4	CSE
4	Cyber Security	3-1-0	4	CSE
5	Forensic Science	3-1-0	4	CSE
6	Cloud Security	3-1-0	4	CSE
	TRACK-3- Artificial Intelligence and Machine Learning			
1	Fundamentals of Artificial Intelligence	3-1-0	4	CSE
2	Fundamentals of Machine Learning	3-1-0	4	CSE
3	Soft Computing	3-1-0	4	CSE
4	Natural Language Processing	3-1-0	4	CSE
5	Feature Engineering for Machine Learning	3-1-0	4	CSE
6	Real Time Systems	3-1-0	4	CSE
	TRACK-4 – Data Science and Analytics			
1	Data Engineering	3-1-0	4	CSE
2	Web Mining	3-1-0	4	CSE
3	Exploratory Data Analytics	3-1-0	4	CSE
4	Social Media Analytics	3-1-0	4	CSE
5	Algorithms for Data Analysis	3-1-0	4	CSE
6	Data Visualization Techniques	3-1-0	4	CSE

Department of Electronics & Communication Engineering
Annamacharya Institute of Technology & Sciences::Rajampet
Model Curriculum of B.Tech. (Minors)

S. No.	Category	Course Code	Course Titles for Minor Degree	Hours per week			Credits
				L	T	P	C
			Digital Electronics	4	0	0	4
			Verilog HDL Programming	3	0	2	4
			Analog Communication	3	0	2	4
			Digital Communication	3	0	2	4
			Introduction to Embedded Systems	4	0	0	4
			Introduction to Electronic Devices	3	0	2	4
			Signals & Systems	4	0	0	4
			Basics of Nano Electronics	4	0	0	4
Two MOOC Courses (4 Credits)							

Department of Electronics & Communication Engineering
Annamacharya Institute of Technology & Sciences::Rajampet
Curriculum of B.Tech. (Honors)

Sl. No.	Category	Course Code	Course Titles for Honors Degree	Hours per week			Credits
				L	T	P	C
POOL 1							
1			Advanced Digital Signal Processing	4	0	0	4
2			Embedded Systems Concepts	4	0	0	4
3			Testing & Testability	4	0	0	4
4			Digital and data communications	4	0	0	4
POOL 2							
1			Internet of Things	4	0	0	4
2			Wireless Broadband Communications	4	0	0	4
3			Algorithms for VLSI design automation	4	0	0	4
4			Modern Digital system design	4	0	0	4
POOL 3							
1			Low Power VLSI	4	0	0	4
2			DSP Processors and architectures	4	0	0	4
3			Adaptive Signal processing	4	0	0	4
4			Multi Media Communication	4	0	0	4
POOL 4							
1			Image & Video Processing	4	0	0	4
2			Industrial Electronics	4	0	0	4
3			Cryptography & Network Security	4	0	0	4
4			MEMS and its applications	4	0	0	4
POOL 5							
Two MOOC Courses (4 Credits)							

ANNAMACHARYA INSTITUTE OF TECHNOLOGY AND SCIENCES RAJAMPET
(An Autonomous Institution)
Department of Electrical and Electronics Engineering
Courses offered for Minor Degree

S. No	Category	Course code	Course Title	Hours per week			Credits
				L	T	P	
1	MC		Circuit Theory	3	0	0	4
2	MC		DC & AC machines	3	0	0	4
3	MC		Electric Power Transmission & Distribution	3	0	0	4
4	MC		Energy Storage Systems	3	0	0	4
5	MC		Measurements & Sensors	3	0	0	4
6	MC		Electric Vehicles	3	0	0	4
7	MC		Any Two Moocs	3	0	0	4

Note: Students has to select 4 courses out of 6 courses expect Moocs

CP

ıead of the Department
lectrical & Eiectronics Engineering
nnamacharya Institute of Technology & Science
ew Bovanaballi, Raiampet - 516 126

Bos members:

Dr. P.B. chennaiah

Dr. S. suresh

Dr. C. Gaush

ANNAMACHARYA INSTITUTE OF TECHNOLOGY AND SCIENCES RAJAMPET
(An Autonomous Institution)
Department of Electrical and Electronics Engineering
Courses for Honors

Semester IV (Second year)

SI. No.	Category	Course Code	Course Title	Hours per week			Credits
				L	T	P	C
1	HC		Design of Electrical Machines	3	0	0	4
	HC		Artificial Intelligence and Soft Computing				
	HC		Optimization Techniques				
	HC		Battery Energy Storage System				
						Total credits	4

Semester V (Third year)

SI. No.	Category	Course Code	Course Title	Hours per week			Credits
				L	T	P	C
2	HC		Electrical & Electronics Instrumentation	3	0	0	4
	HC		Principles of Embedded System				
	HC		Advanced Electrical Machines				
	HC		Electric Vehicles				
						Total credits	4

Semester VI (Third year)

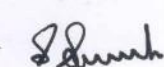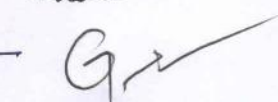| SI. No.	Category	Course Code	Course Title	Hours per week			Credits
				L	T	P	C
3	HC		Advanced Control Theory	3	0	0	4
	HC		Principles of High Voltage Engineering				
	HC		Power System Dynamics & Stability				
	HC		AC & DC Micro-Grids				
						Total credits	4

Semester VII (Fourth year)

SI. No.	Category	Course Code	Course Title	Hours per week			Credits
				L	T	P	C
4	HC		Advanced Power System Protection	3	0	0	4
	HC		Deregulated Power System				
	HC		Applications of Programmable Logic Controller				
	HC		Advanced Electric Drives				
						Total credits	4

Semester VIII (Fourth year)

SI. No.	Category	Course Code	Course Title	Hours per week			Credits
				L	T	P	C
5	HC		Any Two MOOCS courses	3	0	0	4
						Total credits	4

Bos member:

1. Dr. P. B. chounaih —
2. Dr. S. suresh —
3. Mr. C-Ganesh —

Head of the Department
Electrical & Electronics Engineering
Annamacharya Institute of Technology & Science
New Boyanapalli, Rajampet - 516 126

R20 - List of Subjects for B.Tech (Minor) In Mechanical Engineering

Sl. No.	Name of the Course	L-T-P	Credits	Pre-Requisite	Offered to
1	Basic Engineering Mechanics	3-1-0	4	NIL	Any Other Branch Students
2	Basic Manufacturing Processes	4-0-0	4	NIL	
3	Basic Engineering Thermodynamics	3-1-0	4	NIL	
4	Total Quality Management	4-0-0	4	NIL	
5	Robotics	4-0-0	4	Basic Engineering Mechanics	
6	Mechatronics	4-0-0	4	NIL	

NOTE: First three subjects are mandatory.

ANNAMACHARYA INSTITUTE OF TECHNOLOGY & SCIENCES::RAJAMPET
(AN AUTONOMOUS INSTITUTION)
DEPARTMENT OF MECHANICAL ENGINEERING

R20 - List of Subjects for B.Tech (Honors) In Mechanical Engineering

Pool 1: Design Stream					
Sl. No.	Name of the Course	L-T-P	Credits	Pre-Requisite	Offered to
1	Composite Materials	4-0-0	4	Mechanics of Solids	ME Branch Students
2	Design of Hydraulic and Pneumatic Systems	4-0-0	4	Fluid Mechanics & Hydraulic Machines	
3	Materials Characterization Techniques	4-0-0	4	Material Science	
4	Surface Engineering	4-0-0	4	Manufacturing Processes	

Pool 2: Thermal Stream					
Sl. No.	Name of the Course	L-T-P	Credits	Pre-Requisite	Offered to
1	Heating Ventilation & Air Conditioning	4-0-0	4	Basic Thermodynamics	ME Branch Students
2	Combustion, Emissions and Environment	4-0-0	4	IC Engines	
3	Electric and Hybrid Vehicles	4-0-0	4	IC Engines	
4	Alternative Fuels Technologies	4-0-0	4	IC Engines	

Pool 3: Production/Industrial Stream					
Sl. No.	Name of the Course	L-T-P	Credits	Pre-Requisite	Offered to
1	Theory of Control Systems	4-0-0	4	Instrumentation & Control Systems	ME Branch Students
2	Management Information System	4-0-0	4	NIL	
3	Inspection And Quality Control in Manufacturing	4-0-0	4	NIL	
4	Advanced Optimization Techniques	4-0-0	4	NIL	

Pool 4: CAD/CAM Stream					
Sl. No.	Name of the Course	L-T-P	Credits	Pre-Requisite	Offered to
1	Soft Computing Techniques	4-0-0	4	CAD/CAM	ME Branch Students
2	Computer Numerical Control	4-0-0	4	CAD/CAM	
3	Flexible Manufacturing System	4-0-0	4	Automation & Robotics	
4	Computer Integrated Manufacturing	4-0-0	4	CAD/CAM	

Note: One subject has to be selected from each pool in every semester.