1987–2027

Greenwich University

school_of computing

Greenwich Works

BUILD BLOCK BRIEF · FALL 2026–27

Machine & Language STUDIO LANE

Project menu session 5 · this brief session 5 · project chosen session 6 · build from session 7 · 20 students · 4 teams at the final cut · courses: GCAA444, GCCA445, GCCE691, GCOS443, GCTA441, GCCN555, GCCN558, GCOS446

What your team is building

Systems-level computing with a language or network dimension — NLP, OS, architecture, networks, automata, algorithms — built and evaluated on a public problem.

Your block's convener. Adeel Karim.

ONE PROJECT, SEVERAL GRADEBOOKS

You submit **one** piece of work, and each course that marks it looks at a different dimension, out of 15. **At most eight courses mark one team file.** A course you take that falls outside those eight sets you a **lens note** instead — an individual piece on the same project from that course's angle, 3,000 words, same rubric, out of 15, with a viva out of 5. No student carries more than two: from a third, that course marks your viva out of 20 instead.

YOUR MARKS FROM THIS PROJECT

30 sessional work — a team mark of 15 from each course that marks your file, plus your own viva of 5, held in class in the Presentations & Viva week, plus your teacher's quizzes and assignments 10
30 the mid-term
40 the final

This replaces most coursework, not classes.

The projects in this block

Your team chooses one of these in session 6, with your convener. **At most two teams take the same project, and only on different sites or areas.** The full question, the work and the required pieces for each project are in the Ideas Book. Each line below says what your team leaves behind by December, and the skill you take away.

PROJECT	WHAT EXISTS BY DECEMBER	SKILL
Urdu Complaint Classifier Reports to: Sindh Citizen Complaint Cell · Sindh IT Dept	**A Roman-Urdu complaint classifier running as a service, with a deployment note handed to the Sindh Citizen Complaint Cell and IT Department.**	training and deploying a text classifier
Campus Mesh Network Reports to: Greenwich University IT Services	A working mesh of 4–6 routers on campus serving one local service, with its address plan, configurations and fault log handed to University IT Services.	configuring and fault-finding a network

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PROJECT	WHAT EXISTS BY DECEMBER	SKILL
Fake News Detector for Urdu Reports to: Greenwich University (media department — reader to be confirmed)	A browser demo of an Urdu fake-news detector, with a report on the model's limits offered to the University's media department.	evaluating a model and reporting its errors honestly
A Low-Cost Server for a School Reports to: Sindh School Education Dept	A working school server with scheduled backups, handed with a one-page admin guide to a named member of the school's staff.	building and administering a server with backups
Roman Urdu to Urdu: A Transliteration Engine Reports to: Pakistan Academy of Letters	A working Roman-to-Urdu-script transliterator running as a service, with a short technical note offered to the Pakistan Academy of Letters.	building a finite-state text processor

What each course marks

CODE	COURSE	WHAT THIS COURSE MARKS — 15 MARKS
GCAA444	**Analysis of Algorithm** Mariha Fahad	**This course marks the cost account:** the asymptotic analysis of the algorithms in the study, the design of the benchmark, the measured results, and the honest reconciliation of predicted with observed running time on the team's chosen workload. 15 marks, team.
GCCA445	**Computer Architecture** Maaz Ahmed	**This course marks the hardware account:** the benchmark run on the team's program, the cache and pipeline behaviour measured, the architectural change proposed and simulated, and whether the speed-up claimed survives Amdahl's law. 15 marks, team.
GCCE691	**Natural Language Processing** Haris Yaseen	**This course marks the language component of the study:** the corpus and how it was prepared, the model built, the evaluation design, the error analysis, and the honesty of the claims made about what the component can and cannot do. 15 marks, team.
GCOS443	**Operating Systems** Yahya Ali Rashidi	**This course marks the operating-system account:** the processes and threads the team's program creates, its synchronisation and whether it is free of races, the scheduling and paging behaviour measured under load, and the system-call trace read and explained. 15 marks, team.

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CODE	COURSE	WHAT THIS COURSE MARKS — 15 MARKS
GCTA441	**Theory of Automata** Ume Farwa	**This course marks the formal model:** the automaton or grammar written for the team's input language, its conversion and minimisation, the proof that the class chosen is the right one, and the recogniser built from the model. 15 marks, team.
GCCN555	**Computer Networks** Adeel Karim	**This course marks the network:** the requirements read out of the brief, the address plan, the device configuration and how it was verified, the packet captures that prove the design works, and the fault log showing what broke and how it was found. 15 marks, team.

What to hand in

- **GCAA444 Analysis of Algorithm** — A measured systems study submitted by session 12 — the workload, the code, the benchmark harness, the predicted and observed costs set out in one table, and the written reconciliation — filed with AI declaration.
- **GCCA445 Computer Architecture** — By session 11, a simulator study of the team's program — baseline CPI and cache statistics, one architectural change implemented in the simulator, before-and-after measurements and a cost argument — with AI declaration.
- **GCCE691 Natural Language Processing** — A measured study submitted by session 12 — corpus, code, evaluation harness, a results table with baselines, and a written error analysis naming the failure cases — filed with AI declaration.
- **GCOS443 Operating Systems** — By session 11, an instrumented build of the team's program with a systems report — strace and perf output, a scheduling and page-fault profile under three workloads, and the synchronisation argument — with AI declaration.
- **GCTA441 Theory of Automata** — By session 12, the formal-language specification for the team's system — grammar or automaton with a state diagram, the minimisation, a proof of class membership, and a working recogniser — with AI declaration.
- **GCCN555 Computer Networks** — A working network by session 12 — simulator project file, address plan, device configurations, annotated packet captures for three key flows, and a test and fault report — submitted together with AI declaration.

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How big the file is

The written file is **3,000 words for every member**, plus or minus ten per cent — 15,000 words for a team of five, 12,000 for four, 9,000 for three — plus the artefacts: the evidence or data log with its instrument, interview notes and consent log, any program with its tests, the pitch deck, the AI declaration, the draft-to-final revision log, the two-page brief for the body the project reports to, delivered by the team, and the handover page (data, methods, what next year's team should do). In the venture and client lanes the live thing itself is the largest artefact. Each member owns one section of 3,000 words with their name on it, one artefact they built, and one part they can defend alone at viva. A lens note is 3,000 words on the same project. The full format is in "The Folio — required format", in the portal.

Dates

Session 5	12 Oct	Your personal brief, with your claim code, in class. The project menu — twenty minutes of class: your block's projects, each with its title, its problem in one line and who it is for; your team notes the three it likes. And the full projects, the same week: this brief, the Ideas Book and the format sheet, in the portal. Read your three projects in full.
Guest session	Session 4 or 5	A practitioner from outside the university speaks to your school, on whichever of those two sessions the speaker can make. Attendance is compulsory. Each student writes one page on it for their own file; it is not marked.
Session 6	19 Oct	Your team makes its final choice of project with your convener and names itself. Sealed prediction: before any data, your team writes what it expects to find, signs it and seals it with your convener. Your convener opens it at your team's first viva. It carries no marks. Straight after, your team fills in the ethics screening sheet in class (the ethics sheet and any field plan are due Sat 24 Oct). Then design the instrument or find the client, and split the sections.
Sessions 6–7	19 Oct – 8 Nov	Data collection may begin once your team's ethics screen is cleared. The mid-term (26 Oct – 1 Nov) comes between the two sessions. The build itself starts in session 7.
Session 7	2 Nov	One-page plan uploaded to the portal by Sat 7 Nov: the question, the instrument or the client charter, who owns what. Not marked — it is the gate. This week the convener merges the marking courses' requirements into the file's sections, so the team writes one document and not eight. Clients matched to teams; field plans signed. Build starts: rubric issued, roles confirmed, team charter uploaded by Sat 7 Nov. Build-with-AI workshop for venture and client teams.
Session 8	9 Nov	Iqbal Day, Mon 9 Nov, is a holiday; Monday classes are made up on Tue 10 Nov. Scope agreed with the convener. Client or subject confirmed. Your school arranges its industrial visit for some point between now and session 11.
Session 10	23 Nov	Draft review, inside a normal class: each course teacher sees the teams in their own section for about ten minutes each — show what exists, not what you plan. The convener samples three files per block.

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Session 11	30 Nov	The artefact goes live or reaches its first complete state.
Session 12	7 Dec	The last class. Final file uploaded in the Folio submission window, Sat 12 – Wed 16 Dec, with its AI declaration, the two-page brief written for the body your project reports to, and the handover page (data, methods, what next year's team should do). Venture teams evidence the first paying customer. The whole window is on time; nothing is accepted after Wednesday 16 December.
Presentations & Viva	14–19 Dec	No new teaching. Vivas in class: each course holds its own, team by team, in its class in the Presentations & Viva week — about three minutes per student, on your own part as that course sees it. Alumni viva panels sit through the week; the main panel day is Sat 19 Dec.
The Karachi Review	Mon 21 Dec	Your team exhibits at its own table, across the campus, all day. The day opens with a thirty-minute handover of studies to the public bodies who asked for them; press and industry attend. Eleven panels — a teacher and an alumnus each — circulate the exhibition and score you at your table, about eight minutes a team. Not marked separately; the panel sheet goes to every course marking the file.
Weekend	—	Weekend cohorts hold all of the above in their Saturday and Sunday slots; the Karachi Review runs on a weekend afternoon.

Rules for this lane

What counts as done

A finished piece of work — not a plan for one, not a prototype that only runs on your machine — with the process behind it documented.

Craft

The standard is what a competent professional would accept, at the level of your year. Unfinished work presented as finished is marked as unfinished.

Sources and rights

Anything you did not make yourself is credited. You may not use material you have no right to use, and asset licences are recorded in the file.

If your work involves people

Consenting adults only, with an information sheet, a consent form and a debrief. Mock cases where the subject is clinical. No real patient, client or examinee material, ever, and none of it into an AI tool.

Marks

Craft carries the weight, but the reasoning behind your choices carries the rest. Be able to say why you did it that way.

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Two teams to a project, at most

No project is taken by more than two teams, and two teams share one only on different sites or areas. Your convener records your choice in session 6 and may refuse a third team.

Before you leave campus

Whatever your lane: no team collects data before its ethics screen is cleared, and no team leaves campus before the fieldwork gate opens on Saturday 10 October, the duty phone exists and the team has signed out on the sign-out sheet. The duty number is on your field card.

Using AI

You are expected to use Claude and similar tools — to research, to build, to draft, to model numbers. Three rules. Check everything a tool gives you before you use it, and record the check. Declare what you used in the AI declaration bound into the file, as the HEC *Framework on the Use of Generative AI Tools* (2026) requires. Be able to explain, at the viva, everything your team built. **Work you cannot explain is not credited to you.** Undeclared use, or use to fabricate data, references or results, is academic misconduct. Never put real client, patient or examinee data, or anything identifying a real person, into a tool.

BLOCK CONVENER	PROGRAMME HEAD	DATE ISSUED