

UG IE units

What you should be able to do, based on your stream in your degree

So what we expect you to be able to do well in your project team. What was the key learning from your specific streams:

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For all streams

- Problem Solving Skill - the ability to diagnose the possible causes of a problem and to develop an action that solves the problem which includes the ability of identifying the problem, doing research and looking for possible solutions, making a decision, and putting the decisions into action.
- asking the right question - what it would be and how to ask it
- Self-learning skill - the ability to learn and be able to find useful resources, Step outside comfort zone and support the team as needed
- Project management monitoring including project milestones and tasks distribution, deadlines etc
- Testing/validation at all levels by all disciplines/streams
- Understanding of HTML/CSS
- Basic Security Knowledge
- Being a team player and supporting/collaborating with others.

Dev stream

- Self-learning skill - the ability to learn new programming languages and frameworks quickly, and be able to find useful resources, such as dev doc, demo project, Q & A on Stackoverflow
- Software engineering skill -
 - be able to program - use different languages, third-party tools or libraries to build the system, and modify tools or libraries based on requirements.
 - Be able to foresee the code that need to be reused and reuse the code in proper ways
 - Strictly follow devops rules of the project. For example, always push changes to Git first, and never modify the system on the live server directly
 - Always try to maximise the usability of the system, Proper and clean coding including comment and well structured and documented code
 - Create necessary documentations related to the tech aspects of the project
 - Assisting team/studio members if they can, in terms of useful techs or resources
 - Testing including functional testing, unit testing, data validation, Accessibility testing etc.
 - Create test cases
 - Prototype
 - API Integration - Understanding how APIs work in general by reading API docs and being able to integrate APIs to their system.

BA stream

- Understanding problems and to develop an action that solves the problem which includes the ability of identifying the problem, doing research and looking for possible solutions, making a decision, and putting the decisions into action. (- asking the right question)
- Understanding how technology can assist a business (so NOT paving the cowpath, ie just automating what a business does now)
- Self-learning skill - the ability to learn and be able to find useful resources, Step outside comfort zone and support the team as needed
- Project management monitoring including project milestones and tasks distribution, deadlines etc
- Ideate
- Know and use agile approaches
- Know how to interview clients
- Analysis/Design:
 - Assists in the analysis of stakeholder objectives and underlying issues arising from investigations into business requirements and problems and identifies options for consideration
 - Prepares business cases which define potential benefits, options for achieving them, Gap analysis) requirements elicitation in alignment with project vision (define problem statement, execute effective questioning & recording via discovery workshop, deliver project brief); requirements modelling and documentation (confirm business rules. process visualization to support walkthrough client); solution assessment & validation
- Use learnt methods/approaches to complete this successfully
 - (Investigate operational needs and problems,, opportunities, contributing to the recommendation of improvements in automation and non-automated components of new or changed processes and organisation, Understand current business flow and pain points, understand potential and actual dependencies
- Persona development and design, ensuring value delivered aligns with persona requirements, considerations and goals
- User journey mapping and optimisation for each persona
- User story design, development and prioritization
- Acceptance Criteria for user stories
- Test cases for Test driven development testing, ensuring system developed aligns with business needs and suits user journey,
- Quality control, assurance
- UAT preparation easily and managing
- Integrity testing, acceptance testing pre Client acceptance testing (Pooneh) data validation testing, Accessibility testing, etc. UX
- Know how to document findings
- Trello,
- Prototyping
- Conceptual data modelling, and into systems
- UX/UI systems side, ie which information should be where and why and how it's used Perhaps UI/UX generally (if UI/UX is not taken
- Critical Thinking/Problem Solving Skill - the ability to diagnose the possible causes of a
- Agile manifesto - understand and what it about why it came about)so Agile's importance in the development.

Cybersecurity stream

Security Portfolio (other systems)

- Diagnostics to identify system components such as OS, software, APIs, directories etc.
Record your findings and highlight possible vulnerabilities.
- Conducting penetration tests on allocated victim systems
- Recording findings and generating Security Analysis & Resolution report
- Reinforcing victim systems & liaising recommendations (consulting)

Cakephp Security Reinforcement (own system)

- Access new resources
(<https://book.cakephp.org/3/en/controllers/components/security.html>)
- Handling blackhole callbacks
- Restrict Actions to SSL
- Restricting Cross Controller Communication
- Form tampering prevention
- CSRF Protection
- Disabling Security Component for specific actions