Computer and Network Architecture   Catalog 2023-2024

CSD 322 Computer and Network Architecture

5 credits

This **cou**rse **prov**ides **stud**ents **w**ith **a**n **archit**ectural **over**view **o**f **mod**ern **comp**uter **techn**ology. **T**he **s**et **o**f **hard**ware **a**nd **soft**ware **compo**nents **th**at **toge**ther **def**ine a **comp**uter **sys**tem **is prese**nted. **T**he **over**view **incl**udes **a**n **introd**uction **t**o **net**work **archit**ecture.

Prerequisites: CSD 122, CSD 138, CSD 268, **a**nd **admi**ssion **t**o **t**he **B**AS **IT:**CSD **pro**gram

Course Outcomes

Upon **succe**ssful **compl**etion **o**f **th**is **cou**rse **stud**ents **w**ill **be ab**le **t**o:

- Describe the major functional components of a computer, including input, output, central processing, arithmetic logic, temporary and persistent storage, and control units
- Describe and program the CPU's instruction set
- Interpret CPU and system performance metrics
- Demonstrate familiarity and facility with the TCP/IP protocol
- Describe the TCP/IP stack
- Write programs running on separate machines that communicate via a socket
- Describe the role and function of a router
- Explain how a packet is routed from one machine to another on the same and on a different subnet
- Design and implement programming projects as a member of a team

Program Outcomes

This **cou**rse **tea**ches **t**o **t**he **foll**owing **pro**gram **outc**omes:

- demonstrate competency in software engineering, software testing principles, and quality assurance techniques

- identify, evaluate, and apply efficient algorithms and technologies required for developing software system

- be prepared to obtain an entry-level position at a software development company

Total Hours: 60 **Theory (Lecture) Hours:** 40 **Gui**ded **Prac**tice **(L**ab **or Clin**ical) **Hou**rs: 20