BSc (Hons) in Computer Science/Studies
Software Engineering Stream

by
Dr. Andy Chun, Hon Wai
Programme Leader for BSc Computer Studies
Subject Group Leader for SE
Department of Computer Science
What is Software Engineering?

How to Design & Build Software
What is Software Engineering?

How to Design & Build Software Professionally
Student Programs...
Professional Commercial Software
What will You Learn?

How to be Professional Software Project Leaders
What Is Professional Software Dev?

Process Workflows
- Business Modeling
- Requirements
- Analysis & Design
- Implementation
- Test
- Deployment

Supporting Workflows
- Configuration Mgmt
- Project Management
- Environment

Phases
- Inception
- Elaboration
- Construction
- Transition

Iterations
- Iter. #1
- Iter. #2
- Iter. #n
- Iter. #n+1
- Iter. #n+2
- Iter. #m
- Iter. #m+1

Roles
- Analyst
- Architect/Developer
- Quality Engineer
- Project Leader
- Performance Engineer
- Release Engineer

BSCS – Software Engineering
Who Should Be Interested?

- If you want to be Technical Project Leader/Manager
- ... and maybe Head of IT, CTO, CIO
Imagine This…

- You have a team of 50 professional programmers
- Writing a software system that will be a million lines of code (LOC)
- You need to deliver in 6 months
And…

- Your program will control China’s next generation space station (Shenzhou 6)…

- … and you are the Chief Software Project Manager!
Premier Wen Jiabao Wants to Know…

- Are you sure that the million lines of software is totally bug free?
- Are you sure your software will be ready on time?
- Are you sure your software is fast enough to perform all the calculations needed?
Premier Wen Jiabao Wants to Know…

- Are you sure your software will not cause the space station to blow up?
Do You Have the Answers?

- How do you scientifically answer those questions?
You Need Software Engineering!

- SE teaches you the dynamics of software development
- You will learn techniques, tools and methodologies to produce high quality software
- SE will allow you to answer all those tough questions scientifically with confidence!
Content

- What is SE?
- Why Should I Be Interested?
- What Do I Need to Study?
The Facts

- Most simple “programming” jobs will be moved to mainland of China where wages can be as low as HK$1K or $2K/month

- What will be your future then?
Your Future…

- You only future is to be able to manage software projects!
  - HK companies mainly hire project managers
  - Even companies in mainland of China come to HK to recruit!
  - Why not use some of their local staff?
The Only Path to Success!

- HK IT professionals are famous for their management skills...
  - This means their SE know how!
Content

- What is SE?
- Why Should I Be Interested?
- What Do I Need to Study?
What Does SE Courses Cover?

Process Workflows
- Business Modeling
- Requirements
- Analysis & Design
- Implementation
- Test
- Deployment

Supporting Workflows
- Configuration Mgmt
- Project Management
- Environment

Phases
- Inception
- Elaboration
- Construction
- Transition

CS3345 Object-Oriented Methodology

CS3346 Software Testing and Maintenance

CS4348 Software Quality Management

CS4281 Internet Application Dev

Iterations

Preliminary Iteration(s) Iter. #1 Iter. #2 Iter. #n Iter. #n+1 Iter. #n+2 Iter. #m Iter. #m+1
What Will You Learn?

- IEEE SWEBOK (Software Engineering Body of Knowledge)
  - Software Requirements
  - Software Design
  - Software Construction
  - Software Testing
  - Software Maintenance
  - Software Configuration Management
  - Software Engineering Management
  - Software Engineering Process
  - Software Engineering Tools and Methods
  - Software Quality
New IEEE Certification for SE!

- Examination includes everything in the IEEE SWEBOK!
Questions?