**BS-CS Program Outcomes Check-List** (Spring 2012)

**Senior Project**

**Assessment of Student Outcomes of the BS in Computer Science**

**of the**

**School of Computing and Information Sciences**

**Florida International University**

The School of Computing and Information Sciences evaluates the Senior Projects of its graduating seniors for the purpose of assessing the level of attainment of the Student Outcomes of the BS in Computer Science program.

Please complete once per project/team. Your responses to this survey will be used solely to assist evaluators in locating assessment indicators in the documentation of your project.

**This survey is expressly NOT for assessment of student performance in the SCIS Senior Project course for assignment of letter grade, nor for assessment of the instructor(s).**

Project Title \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Semester & Year \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Advisor (Faculty / Industry Sponsor): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Team: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Contact (email / phone): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Student Outcome (a)**: *Demonstrate proficiency in the foundation areas of Computer Science including discrete structures, logic and the theory of algorithms*

*Discrete Mathematics*

* Does the project incorporate elements of mathematical reasoning or proof?

E.g. Theorem, Mathematical Induction, Propositional Logic, First Order Logic

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Mathematical Reasoning / Proof Deliverable Page#

* Does the project utilize other elements of discrete mathematics?

E.g. Set Theory, Boolean Algebras, Combinatorics, Graph Theory

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Discrete Math Deliverable Page#

*Probability & Statistics*

* Does the project utilize some statistical procedure(s) to represent or summarize test data?

E.g. Mean & Standard Deviation, Stem Plot/Histogram, Box Plot/Percentile-Graph

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Data Summary Deliverable Page#

* Does the project utilize some statistical measure(s) of system behavior or performance?

E.g. Probability Distributions, Confidence Intervals, Hypothesis Testing

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Statistical Measure Deliverable Page#

*Theory of Algorithms*

* Does the project utilize finite state diagrams to model system behavior?

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Finite State Machine Deliverable Page#

* Does the project utilize some aspect(s) of formal computer science?

E.g. Automata, Turing Machines, Recursive Function Theory, Recursive Unsolvability

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Automata, etc. Deliverable Page#

**Student Outcome (b):** *Demonstrate proficiency in various areas of Computer Science including data structures and algorithms, concepts of programming languages and computer systems.*

*Data Structures & Algorithms*

* Does the project utilize an advanced data structure, e.g. search tree, hash table, priority queue?

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Data Structure Deliverable Page#

* Does the project utilize some graph algorithm, e.g. shortest path, minimum spanning tree?

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Algorithm Deliverable Page#

* Does the project implement some other (non-trivial) algorithm?

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Algorithm Deliverable Page#

* Does the project analyze run-time complexity of any algorithms?

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Algorithm Deliverable Page#

*Concepts of Programming Languages*

* Does the project utilize knowledge of programming language syntax/parsing?

 E.g. Context-Free Grammars, Parse Trees, Recursive Descent

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Syntax/Parsing Deliverable Page#

* Does the project utilize knowledge of programming language semantics?

E.g. Natural Semantics, Interpreters, Expressions, L- and R- Value

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Semantics Deliverable Page#

* Does the project utilize knowledge of design issues such as scoping rules, type checking?

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Design Issues Deliverable Page#

*Computer Systems (Operating Systems)*

* Does the project utilize knowledge of memory management techniques?

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Memory Management Deliverable Page#

* Does the project utilize knowledge of process synchronization?

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Process Synchronization Deliverable Page#

* Does the project utilize knowledge of distributed processing?

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Distributed Processing Deliverable Page#

* Does the project utilize knowledge of device management?

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Device Management Deliverable Page#

*Computer Systems (Database Systems)*

* Does the project utilize knowledge of information storage and/or retrieval?

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 Information Management Deliverable Page#

* Does the project utilize conceptual or relational database schema?

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Schema Deliverable Page#

* Does the project utilize a database query language, e.g. SQL?

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Query Language Deliverable Page#

**Student Outcome (e):** *Demonstrate understanding of the social and ethical concerns of the practicing computer scientist*

* Where does the project document license/copyright, sources/references?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Deliverable Page# Deliverable Page#

* Where does the project identify and address any relevant social issues?

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Deliverable Page# Deliverable Page#

* Where does the project identify and address any relevant ethical issues?

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Deliverable Page# Deliverable Page#

* Where does the project identify and address any relevant legal issues?

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Deliverable Page# Deliverable Page#

* Where does the project identify and address any relevant privacy issues?

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Deliverable Page# Deliverable Page#

* Where does the project document any anticipated impact on users/clients?

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Deliverable Page# Deliverable Page#

* Where does the project document any anticipated technology impact issues?

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Deliverable Page# Deliverable Page#

**Program Outcome (h):** *Have experience with contemporary environments and tools necessary for the practice of computing*

To be completed by the team. List the tools and IDE’s that you used at any stage of your project

Competency Rating Scale **5**: Expert, **4**: Advanced, **3**: Competent, **2**: Intermediate, *1*: Novice

\_\_\_\_ **Presentation Aids** (MS PowerPoint, Adobe Acrobat, etc.)

|  |  |  |
| --- | --- | --- |
| Domain | Software / Tool | Competency |
| Presentation |  |  |
| Demonstration |  |  |

\_\_\_\_ **Document Preparation** (MS Word, MS Visio, LaTeX, UMLet, etc.)

|  |  |  |
| --- | --- | --- |
| Domain | Software / Tool | Competency |
| Document Editing |  |  |
| Diagramming |  |  |

\_\_\_\_ **Programming Languages & IDE’s** (Java, C, C++, C#, SQL, PhP)

|  |  |  |
| --- | --- | --- |
| Domain | Software / Tool | Competency |
| Programming Language |  |  |
| IDE or OS |  |  |

\_\_\_\_ **Project Management** (MS Project, AtTask, version control tools, etc.)

|  |  |  |
| --- | --- | --- |
| Domain | Software / Tool | Competency |
| Project Management |  |  |

\_\_\_\_ **Modeling** (StarUML, Rational Rose, etc.)

|  |  |  |
| --- | --- | --- |
| Domain | Software / Tool | Competency |
| UML Modeling |  |  |

\_\_\_\_ **Database Management** (MS Access, Oracle RDBMS, Apache Cassandra, etc.)

|  |  |  |
| --- | --- | --- |
| Domain | Software / Tool | Competency |
| DBMS |  |  |

\_\_\_\_ **Web Servers** (Apache Tomcat, Windows server, etc.)

|  |  |  |
| --- | --- | --- |
| Domain | Software / Tool | Competency |
| Web Server |  |  |

\_\_\_\_ **Software Testing** **Tools** (JUnit, Cobetura, etc.)

|  |  |  |
| --- | --- | --- |
| Domain | Software / Tool | Competency |
| Testing |  |  |

\_\_\_\_ **Other**:

|  |  |  |
| --- | --- | --- |
| Domain | Software / Tool | Competency |
|  |  |  |