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## **WEST POINT ENGINEERING GRADUATES SURVEY**

### **Computer Science**



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**Office of the Dean  
United States Military Academy  
West Point New York 10996**

# WEST POINT ENGINEERING GRADUATES SURVEY

## Computer Science

### INSTRUCTIONS

Please complete each question by circling the letter that corresponds to your answer for each multiple-choice question in the booklet. All questions should be answered, except where indicated otherwise.

Free-response questions also are included. They should be answered directly in the questionnaire booklet in the spaces indicated. Should you need more room for your responses, attach additional pages.

Do not enter your name, SSN, or other identifying information in the questionnaire booklet. Results will be reported as group data only. Your responses will remain completely anonymous.

Your participation is important for the validity of the results. Failure to respond will result in no penalty to you; however, full participation is encouraged so that the data will be complete and representative.

When you have finished, tear off the front cover and instructions page of the questionnaire booklet (to reduce bulk and save postage), fold the remaining booklet along the lines indicated on the back cover, and seal it in the pre-addressed envelope provided.

Mail your responses directly to Institutional Research, United States Military Academy, Official Mail & Distribution Center, 646 Swift Road, West Point NY 10996-9901, as shown on the envelope.

We request that you complete and return your questionnaire within 30 days of receipt. If you are unable to meet this suspense, please complete and return it as soon as possible.

Point of Contact for this survey is Ms. Janet T. Wolff, Institutional Research & Analysis, DSN 688-7384/2803 or (845) 938-7384/2803; e-mail: [janet.wolff@usma.edu](mailto:janet.wolff@usma.edu).

# COMPUTER SCIENCE GRADUATES SURVEY

## PART I

Questions 1-6 ask you to rate various components of your computer science education at West Point. In responding to these questions, use the scale below to rate how well your computer science education at West Point prepared you in the following areas.

- A. Excellent
- B. Very Good
- C. Good
- D. Fair
- E. Poor

<u>Desired Outcome</u>	<u>Rating</u>
1. Develop your problem-solving abilities?	A B C D E
2. Establish a sound foundation in design methodology?	A B C D E
3. Understand battlefield systems and operations?	A B C D E
4. Understand current Army technology and emerging technologies?	A B C D E
5. Prepare you for the Information Technology demands of jobs you (have) held in the Army?	A B C D E
6. Prepare you for your continuing education?	A B C D E

**For Questions 7-10, use the scale below.**

- A. Strongly agree
- B. Agree
- C. Neither agree nor disagree
- D. Disagree
- E. Strongly disagree

I am confident in my ability to ...

- |   |           |
|---|-----------|
| 7. learn on my own – to identify what I know and don't know about a given problem and find answers to unresolved questions. | A B C D E |
| 8. learn new aspects of my position on the job.   | A B C D E |

- A. Strongly agree
- B. Agree
- C. Neither agree nor disagree
- D. Disagree
- E. Strongly disagree

9. continue professional development through self-directed study.      A   B   C   D   E
10. undertake advanced graduate study.      A   B   C   D   E

**Indicate which of the following computer science or computer-science-related continuing education activities (Q11-17) you have completed.**

Activity	Yes	No
11. Ph.D. in computer science	A	B
12. Ph.D. in computer-science-related field	A	B
13. Master's degree in computer science	A	B
14. Master's degree in computer-science-related field	A	B
15. Courses leading to a graduate degree not yet obtained	A	B
16. Courses not leading to a degree	A	B
17. Non-credit courses taken through professional societies, universities, employers, or the Army	A	B

18. Please provide the following information for any non-computer-science-related graduate or professional degrees you have begun or completed:

Degree	Major	Institution	Completed (Yes/No)
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

19. Are you a member of a military technical society (AFCEA, MORS, etc.)?
- A. No, never held membership.
  - B. No, not now; was a member.
  - C. Yes, but not a very active participant in society activities.
  - D. Yes, and a very active participant in society activities.
20. Are you a member of one or more professional computing societies (e.g., ACM, IEEE, SIAM, etc.)?
- A. No, never held membership.
  - B. No, not now; was a member.
  - C. Yes, but not a very active participant in society activities.
  - D. Yes, and a very active participant in society activities.
21. Are you currently serving on active duty?
- A. Yes – **Skip to Part II, Question 26**
  - B. No – **Continue with Question 22**
22. Which of the following describes your professional status as a civilian? (**Mark all that apply.**)
- A. Engineer
  - B. Scientist
  - C. Educator
  - D. Sales/Marketing
  - E. Manager/Executive
  - F. Entrepreneur
  - G. Software Developer
  - H. Network Operations
  - I. Technical Support
  - J. Elected/appointed official
  - K. Other professional
  - L. Other (unemployed, full/part-time other professional or non-professional employee, full/part-time student, etc.)
23. Which of the following best describes the majority of what you work with in the computer-science-related duties in your civilian assignments.
- A. Software
  - B. Hardware
  - C. Information Technology
  - D. Information Systems
  - E. Other

24. Since leaving active service, in which sector of the economy have you worked professionally most of the time?
- A. Business/Industry
  - B. Government
  - C. Education
  - D. Other
  - E. Not applicable (e.g., unemployed, full or part-time non-professional employee, full-time student, etc.)
25. To what extent was your computer science education at West Point effective in preparing you for the computing, information technologies, or engineering-related tasks you have performed since leaving the Army?
- A. Very great extent
  - B. Great extent
  - C. Moderate extent
  - D. Slight extent
  - E. Not at all

**Go to next page.**

## PART II – PROGRAM SPECIFIC

The current objectives of the Computer Science Program at the USMA are given below. While the objectives listed may not be identical to those in place when you graduated, the program remains fundamentally similar. The questions following each objective assess how important you consider each to be and how well the USMA accomplished that objective in your education.

**Objective: Graduates demonstrate an understanding of computing science fundamentals, some in depth.**

26. How important do you consider this objective to be for yourself, your career, and the Army?
- A. Very important
  - B. Somewhat important
  - C. Moderately important
  - D. Marginally important
  - E. Not necessary

**Based on your professional experiences and accomplishments since graduation, assess the extent to which you feel you were prepared by the USMA to do the following (Q27-30):**

- A. Very great extent
- B. Great extent
- C. Moderate extent
- D. Slight extent
- E. Not at all

Desired Outcome	Rating
27. Recognize when abstract CS thinking (e.g., algorithm analysis, polymorphism, theoretical computability) is required in meeting a CS or IT requirement	A B C D E
28. Apply abstract CS thinking (e.g., algorithm analysis, polymorphism, theoretical computability) to problems when required	A B C D E
29. Have a firm grasp of important fundamentals of the computing discipline	A B C D E
30. Have in-depth knowledge of at least one CS topic area (information assurance, databases, networking, etc.)	A B C D E

**Objective: Graduates apply disciplinary knowledge and skills to develop and implement solutions to applied problems individually and in diverse teams.**

31. How important do you consider this objective to be for yourself, your career, and the Army?

- A. Very important
- B. Somewhat important
- C. Moderately important
- D. Marginally important
- E. Not necessary

**Based on your professional experiences and accomplishments since graduation assess the extent to which you feel you were prepared by the USMA to do the following (Q32-35):**

- A. Very great extent
- B. Great extent
- C. Moderate extent
- D. Slight extent
- E. Not at all

Desired Outcome	Rating
32. Participate in constructing (not just planning, gathering requirements, etc.) software or systems to solve CS or IT problems	A B C D E
33. Select and use the right tools to solve a CS or IT problem, even if it requires that I learn more about them on my own	A B C D E
34. Contribute effectively to the solution of a CS or IT problem as a member of a team of other CS or IT professionals	A B C D E
35. Contribute effectively to the solution of a CS or IT problem as a member of a team with members who do not have a CS or IT background	A B C D E

**Go to next page.**



**Objective: Graduates demonstrate the background for professional practice, graduate study, and service to the Army within the context of the computer science discipline.**

36. How important do you consider this objective to be for yourself, your career, and the Army?
- A. Very important
  - B. Somewhat important
  - C. Moderately important
  - D. Marginally important
  - E. Not necessary

**Based on your professional experiences and accomplishments since graduation assess the extent to which you feel you were prepared by the USMA to do the following (Q37-40):**

- A. Very great extent
- B. Great extent
- C. Moderate extent
- D. Slight extent
- E. Not at all

<u>Desired Outcome</u>	<u>Rating</u>
37. Understand and to a useful degree predict the impact of CS or IT on existing organizations, processes, and environments	A B C D E
38. Communicate effectively using various media (writing, multimedia, web-based) as part of developing and fielding solutions to CS or IT problems	A B C D E
39. Have knowledge and preparation sufficient to do well on the Computer Science version of the Graduate Record Examination	A B C D E
40. Apply experience gained from my two-semester senior team-project to real-world problems.	A B C D E

**Go to next page.**

**Objective: Graduates continue to grow intellectually and professionally in the computing sciences.**

41. How important do you consider this objective to be for yourself, your career, and the Army?

- A. Very important
- B. Somewhat important
- C. Moderately important
- D. Marginally important
- E. Not necessary

**Based on your professional experiences and accomplishments since graduation assess the extent to which you feel you were prepared by the USMA to do the following (Q42-44):**

- A. Very great extent
- B. Great extent
- C. Moderate extent
- D. Slight extent
- E. Not at all

<u>Desired Outcome</u>	<u>Rating</u>
42. Think creatively when constructing solutions to CS or IT problems	A B C D E
43. Learn new skills on my own as part of solving a CS or IT problem	A B C D E
44. Maintain competence in many CS and IT skills and technologies important to current and future Army needs	A B C D E

**Go to next page.**

**Objective: Graduates use knowledge and draw on experiences relevant to current and emerging Army needs in computing sciences.**

45. How important do you consider this objective to be for yourself, your career, and the Army?

- A. Very important
- B. Somewhat important
- C. Moderately important
- D. Marginally important
- E. Not necessary

**Based on your professional experiences and accomplishments since graduation assess the extent to which you feel you were prepared by the USMA to do the following (Q46-49):**

- A. Very great extent
- B. Great extent
- C. Moderate extent
- D. Slight extent
- E. Not at all

<u>Desired Outcome</u>	<u>Rating</u>
46. Apply general Math-Science-Engineering knowledge to solving CS or IT problems	A B C D E
47. Determine whether newly-developed ideas in CS or IT are durable concepts or publicity-driven fads	A B C D E
48. Apply knowledge and experiences to effectively propose and execute solutions to current Army needs in CS	A B C D E
49. Develop approaches to understand and communicate issues involved in applying computer science knowledge and experiences to emerging Army needs	A B C D E

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**Objective: Graduates design, build, and test successful solutions to computer science and computer information system problems.**

50. How important do you consider this objective to be for yourself, your career, and the Army?

- A. Very important
- B. Somewhat important
- C. Moderately important
- D. Marginally important
- E. Not necessary

**Based on your professional experiences and accomplishments since graduation assess the extent to which you feel you were prepared by the USMA to do the following (Q51-53):**

- A. Very great extent
- B. Great extent
- C. Moderate extent
- D. Slight extent
- E. Not at all

<u>Desired Outcome</u>	<u>Rating</u>
51. Employ an analyze-design-build-test methodology in the construction of solutions to CS or IT problems	A B C D E
52. Analyze and act on the results of tests and prototyping outcomes of new CS or IT systems or solutions	A B C D E
53. Work effectively with a consumer of CS or IT solutions to identify their true requirements.	A B C D E

**Go to next page.**

54. The greatest strengths of my USMA computer science education were:

55. The greatest weaknesses of my USMA computer science education were:

56. As a constituent, and commander/supervisor of future CS graduates, please list 3-5 CS program objectives that you feel are necessary to accomplish the mission of the USMA and would most appropriately meet the needs of the Army for USMA computer science graduates.

*Thank you for your contributions to the USMA Computer Science Program.*

**PART III**

**ADDITIONAL COMMENTS**

If USMA administered surveys **only** via the Internet, how would this influence your participation?

	<u>Yes</u>	<u>No</u>
I would be <b>able</b> to respond to surveys on the Internet	A	B
I would be <b>willing</b> to respond to surveys on the Internet	A	B

Do you have any other comments or suggestions about your computer science education at West Point?

**(Use typewriter or word processor on separate sheet(s), if preferred)**