Overview

Each year, Career Services surveys SEAS students who earned Master’s degrees to gather information about their post-graduation plans. This report includes data from students who graduated in December 2007, May and August 2008. Information was gathered on two hundred and three (70.97%) of the two hundred eighty-six Master’s degree recipients. We do not survey graduates from the Executive Masters in Technology Management Program.

The top industries in which graduates accepted positions included aerospace, telecommunications, financial services, scientific research and consulting. 51% of the graduates employed in engineering jobs were in Systems Engineering positions. This is in part a reflection of the students who were continuing employment with a major aerospace manufacturer while attending Penn part-time. One industry sector realized the most gains in students accepting positions: finance was up 25%. The number of students pursuing careers in consulting decreased by 50% over the previous year. In all sections of this report, average salaries include respondents who were beginning full-time employment or were continuing current employment. The overall average salary for SEAS Master's respondents was $69,373, a 3.7% change from last year.

Prepared by: Rosette Pyne, Senior Associate Director
January 2009

Table of Contents

<table>
<thead>
<tr>
<th>Pursuits:</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pursuits Upon Graduation</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analysis of Employed Respondents:</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geographic Distribution of Employment</td>
<td>2</td>
</tr>
<tr>
<td>Employment by Industry</td>
<td>2</td>
</tr>
<tr>
<td>Employment by Job Type</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pursuits:</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range &amp; Number of Job Interviews</td>
<td>3</td>
</tr>
<tr>
<td>Range &amp; Number of Job Offers</td>
<td>4</td>
</tr>
<tr>
<td>Average Salary and Range</td>
<td>4</td>
</tr>
<tr>
<td>Employers by Major</td>
<td>4-7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analysis of Graduate Study Respondents:</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduate Programs</td>
<td>7</td>
</tr>
</tbody>
</table>
METHODOLOGY

A complete list of graduating Master’s students, excluding students in the Executive Masters of Technology and Management program, was provided by the SEAS Academic Programs Office. Engineering students graduating with a Master’s degree in December 2007, May and August 2008 responded to two email requests (one from Career Services and one from the Academic Programs Office in SEAS) to complete the Career Plans Survey online between March and August 2008. A link was added to the Engineering section of the Career Services website for easy student access.

SECTION 1 – ANALYSIS OF EMPLOYED RESPONDENTS

GEOGRAPHIC DISTRIBUTION OF EMPLOYMENT

<table>
<thead>
<tr>
<th>Area</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Midwest</td>
<td>7</td>
<td>5.6%</td>
</tr>
<tr>
<td>Northeast</td>
<td>5</td>
<td>3.9%</td>
</tr>
<tr>
<td>Northeast Corridor</td>
<td>80</td>
<td>63.5%</td>
</tr>
<tr>
<td>Northwest</td>
<td>8</td>
<td>6.3%</td>
</tr>
<tr>
<td>Southeast</td>
<td>2</td>
<td>1.6%</td>
</tr>
<tr>
<td>West</td>
<td>18</td>
<td>14.3%</td>
</tr>
<tr>
<td>Abroad</td>
<td>6</td>
<td>4.8%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>126</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

EMPLOYMENT BY INDUSTRY

<table>
<thead>
<tr>
<th>Number</th>
<th>Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>Aerospace</td>
</tr>
<tr>
<td>15</td>
<td>Investment Banking</td>
</tr>
<tr>
<td>14</td>
<td>Software Products</td>
</tr>
<tr>
<td>12</td>
<td>Telecommunications</td>
</tr>
<tr>
<td>10</td>
<td>Consulting, Higher Education Scientific Research</td>
</tr>
<tr>
<td>6</td>
<td>Financial Services (other), Pharmaceuticals</td>
</tr>
<tr>
<td>4 in each</td>
<td>Health Care, Higher Education</td>
</tr>
<tr>
<td>3 in each</td>
<td>Electronics &amp; Robotics, Venture Capital/Private Equity, Publishing</td>
</tr>
<tr>
<td>2 in each</td>
<td>Biomedical Products, Government</td>
</tr>
<tr>
<td>1 in each</td>
<td>Film, Energy Products, Petroleum, Design, Chemicals &amp; Gases, Insurance, Manufacturing (other), Utilities, Internet Services (other), On Line Information Provider, Interactive Entertainment Software</td>
</tr>
</tbody>
</table>

EMployment By Industry
(with Manufacturing Breakdown)
### EMPLOYMENT BY JOB TYPE

<table>
<thead>
<tr>
<th>Number</th>
<th>Job Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>Software Design &amp; Development</td>
</tr>
<tr>
<td>23</td>
<td>Systems Engineering</td>
</tr>
<tr>
<td>12</td>
<td>Scientific Research, Technology Analysis</td>
</tr>
<tr>
<td>9</td>
<td>Engineering R&amp;D</td>
</tr>
<tr>
<td>7</td>
<td>Finance</td>
</tr>
<tr>
<td>6</td>
<td>Project Management</td>
</tr>
<tr>
<td>2 in each</td>
<td>Management, Systems Analysis, Quality Assurance, Teaching, Marketing</td>
</tr>
<tr>
<td>1 in each</td>
<td>Technical Artist/Game Development, Web Design/Development, Engineering Testing, Technical Writing, Non Profit Fund Raising</td>
</tr>
</tbody>
</table>

### EMPLOYMENT BY JOB TYPE (with Engineering and Technology Breakdowns)

- **Engineering:** 35%
- **Technology:** 38%
- **Management:** 2%
- **Marketing:** 2%
- **Finance:** 5%
- **Information Systems/Computer Science:** 35%
- **Scientific Research & Development:** 9%
- **Technical Artist/Game Development:** 2%
- **Testing:** 2%
- **Quality Assurance:** 5%
- **Design:** 9%
- **Research & Development:** 20%
- **Project Management:** 13%
- **Systems:** 51%
- **Applications Programming:** 8%
- **Database Management:** 8%
- **Web Design & Development:** 2%
- **Technology Analysis:** 25%
- **Technical Writing:** 2%
RANGE AND AVERAGE NUMBER OF JOB INTERVIEWS PER STUDENT

<table>
<thead>
<tr>
<th>Range</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-Campus Recruiting (OCR) Interviews</td>
<td>1 – 20</td>
</tr>
<tr>
<td>Interviews Resulting from Career Services Leads (Career Day, Job Postings, PennLink)</td>
<td>1 – 10</td>
</tr>
<tr>
<td>Interviews on Their Own</td>
<td>1 – 20</td>
</tr>
<tr>
<td>All Interviews Combined</td>
<td>1 – 45</td>
</tr>
</tbody>
</table>

RANGE AND AVERAGE NUMBER OF JOB OFFERS PER STUDENT

<table>
<thead>
<tr>
<th>Range</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-Campus Recruiting Offers</td>
<td>1 – 5</td>
</tr>
<tr>
<td>Career Services Offers (Career Day, Email Postings, PennLink)</td>
<td>1 – 5</td>
</tr>
<tr>
<td>Offers from Sources other than OCR and Career Services</td>
<td>1 – 4</td>
</tr>
<tr>
<td>All Offers Combined</td>
<td>1 – 8</td>
</tr>
</tbody>
</table>

AVERAGE SALARY BY YEAR

The average salary for graduates in full-time positions and those continuing current employment was $69,373. An increase of 3.7% over the previous year.

The range of salaries reported for 2008 was $35,000 - $108,000.

The average sign on bonus for graduates accepting full-time positions was $7,756.

LIST OF EMPLOYERS BY MAJOR

**Bioengineering**
- BioCentury Publications, Chicago, IL, Research Analyst
- Guideline, New York, NY, Research Analyst
- Merck, West Point, PA, Staff Engineer
- UCSF Medical Center, San Francisco, CA, Staff Research Associate II

**Biotechnology**
- Aderans Research Institute, Philadelphia, PA, Research Scientist
- BioReference Laboratories, Elmwood Park, NJ, Associate Product Manager
- Booz Allen Hamilton, Middle East, Consultant
- Bristol-Myers Squibb, Wallingford, CT, Position Not Provided
- De Novo Ventures, Palo Alto, CA, Venture Associate
- GlaxoSmithKline Biologicals, Marietta, PA, Sr. Cell Culture Associate
- GTCR Golder Rauner, LLC, Chicago, IL, Vice President
- Hospital of the University of Pennsylvania, Philadelphia, PA, Research Scientist
- Merck, Lansdale, PA, Position Not Provided
- Pegasus Capital Advisors, New York, NY, Analyst
- Tengion, East Norriton, PA, Senior Technology Specialist
- Thomas Jefferson University, Philadelphia, PA, Contract Specialist
- University of Pennsylvania, Philadelphia, PA, Senior Research Investigator
- University of Pennsylvania, Philadelphia, PA, Research Specialist
- University of Pennsylvania, Philadelphia, PA, Research Specialist B
- University of Pennsylvania, Philadelphia, PA, Research Specialist
- University of Pennsylvania, Philadelphia, PA, Research Specialist
- Wistar Institute, Philadelphia, PA, Research Associate III
Chemical and Biomolecular Engineering
Children's Hospital of Philadelphia, Philadelphia, PA, Research Assistant
Employer Not Provided, Location Not Provided, Title Not Provided
Morningstar, Inc., Chicago, IL, Data Analyst
The Dow Chemical Company, South Charleston, WV, Process Engineer

Computer Graphics & Game Technology
Dreamworks Animation SKG, Glendale, CA, Technical Director
High Moon Studios, Carlsbad, CA, Programmer
Microsoft Corporation, Redmond, WA, SDE
Microsoft Corporation, Redmond, WA, Title Not Provided

Computer and Information Science
Arris Systems, Wayne, PA, Systems Engineer
Barclays Capital, New York, NY, Analyst
BlackRock, New York, NY, Analyst
Cisco Systems, Inc., San Jose, CA, Software Engineer II
Credit Suisse, New York, NY, IT Technical Associate
Goldman Sachs, New York, NY, Technology Analyst
Goldman Sachs, New York, NY, Analyst
Google, New York, NY, Software Engineer
Insight Catastrophe Solutions, New York, NY, Software Developer
M3-Group, Philadelphia, PA, Web/Database Developer
McGraw-Hill Companies / Standard, Jersey City, NJ, Database Developer
MFR Consultants, Philadelphia, PA, Director of Strategic Development
Microsoft Corporation, Redmond, WA, SDET
Microsoft Corporation, Redmond, WA, Software Development Engineer
MIT Lincoln Lab, Lexington, MA, Associate Researcher
Oracle, Redwood Shore, CA, Software Engineer
Oracle, Redwood City, CA, Product Manager
SIG, Bala Cynwyd, PA, Technology Associate
UBS AG, Stamford, CT, Technology Analyst
UBS Investment Bank, Jersey City, NJ, Technology Analyst

Computer and Information Technology
Goldman Sachs, New York, NY, Technology Analyst
Merck, PA, Position Not Provided
Monetate Inc., West Conshohocken, PA, Software Developer
Ternary Software, Exton, PA, Software Developer
UBS AG, Stamford, CT, Software Developer
University of Pennsylvania, Philadelphia, PA, Metadata Specialist
University of Pennsylvania, Philadelphia, PA, IT Support Specialist

Electrical Engineering
Argus Information, White Plains, NY, Analyst
Cisco Systems, Inc., San Jose, CA, Software Engineer
Cisco Systems, Inc., San Jose, CA, Software Engineer
Cisco Systems, Inc., San Jose, CA, Software Engineer
Cisco Systems, Inc., San Jose, CA, Software Engineer
Cisco Systems, Inc., San Jose, CA, Title Not Provided
City of Philadelphia- Mayor's Office of Information Service, Philadelphia, PA, GIS Developer
Employer Not Provided, Location Not Provided, Title Not Provided
Exeter Group, Cambridge, MI, Technical Consultant
General Electric, Aktobe, Kazakhstan, Technical Advisor
Goldman Sachs, New York, NY, Business Analyst
IBB Consulting Group, LLC., Philadelphia, PA, Analyst
L3 Communications, Camden, NJ, Hardware Engineer
Lockheed Martin, King of Prussia, PA, Systems Engineer
Lockheed Martin, Moorestown, NJ, Member of Engineering Staff
Electrical Engineering (continued)
Merrill Lynch, New York, NY, Technology Analyst
Michael Page International, New York, NY, Consultant
Microsoft Corporation, Redmond, WA, Software Development Engineer in Test
Morgan Stanley, New York, NY, IT Analyst
Morgan Stanley, New York, NY, IT Analyst
Motorola, Horsham, PA, Title Not Provided
Qualcomm, San Diego, CA, Systems Engineer
The Mathworks Inc., Natick, MA, Application Support Engineer
Wide Area Network Design Laboratory Inc., Piscataway, NJ, System Engineer

Mechanical Engineering & Applied Mechanics
Consolidated Edison, New York, NY, Engineering Management Associate
ExxonMobil, VA, Title Not Provided
Lockheed Martin, Moorestown, NJ, Associate Member Engineering Staff
Morgan Stanley, Hong Kong, Analyst
Oliver Wyman, Dubai, United Arab Emirates, Analyst
Public Authority for Applied Education, Adailiya, Kuwait, Assistant Lecturer
Siemens Building Technologies, Syracuse, NY, Performance Assurance Engineer
Tyco Thermal Controls, Malvern, PA, Proposals
WorleyParsons, Reading, PA, Member of Technical of Staff

Materials Science & Engineering
Boeing Corporation, Tukwila, WA, Materials, Processing, and Physics Engineer 2
Boston Consulting Group, Chicago, IL, Associate
Nera Economic Consulting, New York, NY, Associate Analyst

Robotics
BAE Systems, Bristol, Higher Scientist

Systems Engineering
DSI, Conshohocken, PA, Consultant
GlaxoSmithKline, Philadelphia, PA, Business Analyst
JPMorgan, New York, NY, Analyst
Lockheed Martin, Moorestown, NJ, Systems Engineering
Lockheed Martin, Moorestown, NJ, Engineer
Lockheed Martin, Moorestown, NJ, Member of Engineering Staff
Lockheed Martin, King of Prussia, PA, Systems Engineer
Lockheed Martin, Moorestown, NJ, Member Engineering Staff
Lockheed Martin, King of Prussia, PA, Systems Engineer
Lockheed Martin, Moorestown, NJ, Member Engineering Staff
Lockheed Martin, Moorestown, NJ, Member of Engineering Staff
Lockheed Martin, King of Prussia, PA, Systems Engineer
Lockheed Martin, Moorestown, NJ, Senior Member Engineering Staff
Lockheed Martin, Cherry Hill, NJ, Title Not Provided
Lockheed Martin, Moorestown, NJ, Senior Member Engineering Staff
Lockheed Martin, King of Prussia, PA, Deputy Program Manager
Lockheed Martin, Moorestown, NJ, Title Not Provided
Lockheed Martin, Moorestown, NJ, ELDP
Lockheed Martin, Moorestown, NJ, Engineering Planner Sr.
Lockheed Martin, Cherry Hill, NJ, Data Warehouse Analyst Sr.
Lockheed Martin, King of Prussia, PA, Senior Systems Engineer
University of Pennsylvania, Philadelphia, PA, Clinical Research Coordinator

Telecommunications
A10 Networks, San Jose, CA, Title Not Provided
Cisco Systems, Inc, San Jose, CA, Software Engineer
Cisco Systems, Inc., San Jose, CA, Software Engineer II
Cisco Systems, Inc., San Jose, CA, Software Engineer
Cisco Systems, Inc., San Jose, CA, Software Engineer II
Citadel Investment Group, Chicago, IL, Financial Technology Associate
Telecommunications (continued)
Citadel Investment Group, Chicago, IL, Financial Technology Associate
Lockheed Martin, Moorestown, NJ, Member Engineering Staff
Lockheed Martin, Moorestown, NJ, Member Engineering Staff
Microsoft Corporation, Redmond, WA, SDE
Microsoft Corporation, Redmond, WA, SDET
SIG, Bala Cynwyd, PA, Technology Associate
Temple University, Philadelphia, PA, Instructor
University of Pennsylvania, Philadelphia, PA, Network Engineer

SECTION 2 – ANALYSIS OF GRADUATE STUDY RESPONDENTS

LIST OF GRADUATE PROGRAMS BY MAJOR

Bioengineering
University of Pennsylvania, Bioengineering, PhD (2)

Biotechnology
Lehigh University, Chemical Engineering, PhD
University of Pennsylvania, Cell and Molecular Biology, PhD

Chemical and Biomolecular Engineering
University of Pennsylvania, Chemical & Biomolecular Engineering, PhD (9)

Computer and Information Science
Harvard University, Systems Biology, PhD
National University of Singapore, Computer Science, PhD
School Not Provided
University of Pennsylvania, Computer and Information Science, PhD (4)
University of Utah, Computer Science, PhD

Electrical Engineering
Carnegie Mellon University, Electrical and Computer Engineering, PhD
Columbia University, Electrical Engineering, PhD
University of Pennsylvania, Electrical & Systems Engineering, PhD (2)
University of Texas, Electrical & Computer Engineering, PhD
Virginia Tech University, Robotics, PhD

Mechanical Engineering and Applied Mechanics
University of Pennsylvania, Mechanical Engineering & Applied Mechanics, PhD (5)

Materials Science Engineering
Massachusetts Institute of Technology, Materials Science and Engineering, PhD
University of Pennsylvania, Materials Science and Engineering, PhD (3)