YII: Year in Industry

Industrial Placements in Mathematics for session 2016–17

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Most recent handbook and this talk at —
http://www.mathsstudents.leeds.ac.uk/undergraduate/industrial-placement.html
Structure of this presentation

- Motivation
- Overview of recent and current job market
- Industrial degree options and overall timetable
- Actions
- Assessment
- Supervision and Monitoring
- Types of Work
- Finding jobs
- Expected Salaries
Motivation: why do a year’s placement?

Answer: because it is increasingly being viewed by employers as an essential component of pre-graduation preparation.

“Job advantage for graduates with work experience” (BBC, June 2013)
“Graduates who had internships or work experience when they were students are much more successful in job hunting after university, research suggests.”

“Students, take note: firms give the best jobs to former interns” (Daily Mail, January 2013)
“Record numbers of graduate jobs are going to students who have already worked for the employer, a study revealed today. More than a third of vacancies will be filled by graduates who have already completed work experience placements or internships - rising to three quarters at some firms. Students with no work experience at all are being warned they stand barely any chance of landing a job at a leading firm, regardless of their academic achievements.”

“Increasing numbers of employers now also have work experience places for first-year undergraduates” (The Graduate Market in 2014, January 2014)
“A quarter of organisations offer paid internships and a third of employers run introductory courses, open days and other taster experiences for first-year students.”
Overview of recent and current job market

Extracts from Executive Summary of High Fliers’ “The Graduate Market in 2015” (http://www.highfliers.co.uk/download/2015/graduate_market/GMReport15.pdf):

Changes in entry-level vacancies in recent years are as follows.

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<tbody>
<tr>
<td>Actual</td>
<td>−17.8%</td>
<td>+12.6%</td>
<td>+2.8%</td>
<td>−0.8%</td>
<td>+2.5%</td>
<td>+7.9%</td>
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<tr>
<td>Predicted</td>
<td></td>
<td></td>
<td></td>
<td>+6.4%</td>
<td>+2.7%</td>
<td>+8.7%</td>
<td>+8.1%</td>
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Graduate recruitment has risen beyond the pre-recession peak in the graduate job market in 2007 and means that there will be more opportunities than at any time in the last decade.

Biggest growth (1200 extra grads in 2015) in public sector employers, accounting & professional services firms, banking and finance firms, retailers and Armed Forces.

67% of employers provide paid vacation internships for penultimate-year students and ≥ 50% offer industrial placements for undergraduates (typically lasting 6-12 months).

≥ 80% of employers are offering paid work experience programmes during the 2014-2015 academic year — a record 13,049 places are available.
Placement = getting a “foot in the door”

Recruiters expect that 31% of 2015 entry-level positions will be filled by graduates who have already worked for their organisations either through paid internships, industrial placements or vacation work.

Over half the recruiters who took part in the research repeated their warnings from previous years—that graduates who have had no previous work experience at all are unlikely to be successful during the selection process and have little or no chance of receiving a job offer for their organisations’ graduate programmes.

The ten universities most-often targeted by Britain’s top graduate employers in 2014–2015 are Manchester, Nottingham, Warwick, Cambridge, Oxford, Durham, Bristol, Imperial College London, University College London and Leeds.

Need more compelling evidence for either a year in industry or a summer internship? Here it is ...
DLHE biannual survey: 2005-10 summary

“Positive destinations” (further study or employment) of leavers.

(Figures based on \( \geq 80\% \) response).

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<th>Standard</th>
<th>Year Abroad</th>
<th>Year in Industry</th>
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<tr>
<td><strong>Leeds University</strong></td>
<td>( \frac{5563}{8414} \approx 66% )</td>
<td>( \frac{462}{657} \approx 70% )</td>
<td>( \frac{588}{710} \approx 83% )</td>
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<tr>
<td><strong>Leeds Maths</strong></td>
<td>( \frac{311}{458} \approx 68% )</td>
<td>( \frac{23}{30} \approx 77% )</td>
<td>( \frac{29}{31} \approx 94% )</td>
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MATH8001 programme structure

- Available to G100, G101, G150, G300, G1N3 and JHS
- Now available to MMath Mathematics and Mathematics & Statistics
- Years 1, 2 and 4 (and 5) in University
- Year 3 in full-time paid employment (9–15 months)
- Awarded (MMath) BSc Mathematics [with ...] (Industrial)
Actions (see MATH8001 handbook for details)

- **Year 1**
  * Express interest and join mailing list (e.g., at this meeting)
  * Obtain average grade of 55 or more

- **Year 2**
  * Prepare CV, apply for jobs & liaise with Industrial Coordinator (me)
  * Go for interviews
  * Pass 100 credits with an average grade of 55 or more
  * Attend compulsory briefing meeting

- **Year 3**
  * Find accommodation
  * Complete Health-and-Safety tripartite agreements
  * 9–15 months in placement
  * Visit from and interview by Industrial Coordinator or Academic Tutor

- **Year 4**
  * Complete report covering your year-in-industry
  * Presentation to 2nd-year students and external industry reps in “Placement-Oktoberfest”
  * Get degree!
Assessment

- Only awarded pass or fail (approximate grading for examiners’ meeting)
- Does not contribute towards degree class; external examiners will look at reports
- Four main components to complete before final assessment
  - Employment contract
  - “Work-placement profile”
  - Written report of year’s activities and achievements
  - Powerpoint or LaTeX presentation summarising report (and advising 2nd years)
Supervision and Monitoring

- Industrial supervisor (from the company)
- Frequency of internal progress monitoring depends upon company
- One visit/meeting “in situ” with Academic Tutor or Industrial Co-ordinator (me)
- Constant email support from, and contact point in, Academic Tutor and Industrial Co-ordinator (me)
Types of Placement Work/Job

Most placement students are given graduate-status employment (but not pay!)

- statistical analysis of data
- software development
- marketing
- actuarial/financial/insurance
- database management/programming/web development
- systems analysis & design; operational analysis/research
- technical or customer support
- mathematical computing
- management science modelling
- engineering
Previous placements for Maths students

- Predominantly in finance (audit, accounting); very few “mathematical”; only 3/118 unsuitable.
- Several repeat employers.
- 2008-09 — 10 placements
  - Ernst & Young (London), Provident (Halifax), Eddie Stobart (Carlisle), Eversheds (Leeds), Morgan Stanley (London), Lloyds (London), NFU Mutual (Stratford), Rolls-Royce (Derby), Unilever (Seacroft)
- 2009-10 — 7 placements
  - Mazars (Leeds), KPMG (Birmingham), Goldman Sachs (London), NFU Mutual (Warwick), Fujitsu (Bracknell), Aviva (Norwich), Govt. Work & Pensions (Leeds)
- 2010-11 — 7 placements
  - Grant Thornton (Crawley), HM Customs and Excise (London), Arcadia (London), National Air-Traffic Controllers (Fareham), Mazars (Leeds), Mazars (Southampton)
- 2011-12 — 14 placements
  - 2 × Lloyds (Leeds), Mazars (Leeds), Redmayne-Bentley (Leeds), Morgan Stanley (London), NFU Mutual (Stratford), American Express (London), NHS (Harrogate), IBM (London), Xerox (Leeds), Tata Steel (Port Talbot), National Australia Group (Leeds), Audit Partnership (Leeds)
Previous placements for Maths students

- **2012-13 — 29 placements**
  Grant Thornton, McDonalds HO, Capita Hartshead, 2 × Ernst & Young, Morgan Stanley (all London), HBOS/Lloyds, Mazars, ASDA, Deloitte, DoH, 2 × Leeds City Council (all Leeds), 4 × Lloyds (Halifax), 2 × YBS (Bradford), NHS (Harrogate), RBS Insurance (Bromley), Tui Travel (Luton), Vauxhall Motors (Luton), Gazprom Energy (Manchester), Baker Tilly (Birmingham), M & S (Salford), Adidas (Stockport), IBM UK (Winchester) and GE Capital (Bristol).

- **2013-14 — 15 placements**
  Deloitte, Morgan Stanley, ICIS Heren (all London), 4 × Lloyds (2 × Halifax, 2 × Leeds), Boots (Nottingham), Streets Accts (Cambridge), Aldi (Warwick), Health & Social Care, Ernst & Young (both Leeds), Clearwater (Manchester), Mondelez (Reading) and Ultra Finishing (Burnley).

- **2014-15 — 26 placements**
  Including Boots (Nottingham), Clough & Company (Cleckheaton), Horsfield & Smith (Bury), GE Oil & Gas (Bristol), 12 × Lloyds, Morgan Stanley (London), 2 × IBM, Samsung (Surrey), UBS (London), Capita (Harrogate), ESPN Sports Media Limited (London), Ernst & Young (London), Omlis (Newcastle).

- **2015-16 — 42 placements so far**
  Including 6 × Lloyds, 3 × IBM, 2 × Ernst & Young, 2 × Disney, Covance, Rolls Royce.
### 2009-16 — Boys v. Girls

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<td>1</td>
<td>4</td>
<td>9</td>
<td>5</td>
<td>15</td>
<td>10</td>
<td>48 (34.5%)</td>
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<td>3</td>
<td>5</td>
<td>10</td>
<td>20</td>
<td>10</td>
<td>11</td>
<td>32</td>
<td>91 (65.5%)</td>
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What can you gain?

- Greatly enhanced employability; impressive addition to CV
- Development of key skills in a professional environment
- First-hand experience in sector will help career choices
- Enhanced confidence and experience of work sector
- Partial fees
- Retain student status; can apply for travel cards, loans etc.
- Should you experience problems, support from
  * the School of Maths though your academic supervisor and the industrial co-ordinator
  * the University
- Earnings may be used to pay off student debt
Placement skills

- Academic and personal learning
- Career management
- Time management
- Work culture
- People skills
- Business skills and awareness
- Technical skills — Microsoft Excel, VBA, SQL, SAP, Sage...
- Business impact
Finding a Job: Starting the Process

- We will help — but ultimately up to the student
- Frequent email bulletins of possible placements from Industrial Co-ordinator (me)
- Can be in UK or overseas — European funding available through Erasmus scheme
  * "Erasmus Work" — monthly contribution of £350 towards living abroad
  * Contact the Careers Centre for details
- Should be challenging, but generally not on mathematical front
- Placements based on personal contacts must be discussed with Industrial Coordinator to assess suitability

Put your name and University email address on the list today if interested
Finding a Job: (Mostly-)Online Resources

- https://stars.leeds.ac.uk
  Leeds Uni Careers Centre jobs and links.
  Student userid needed to access this outstanding and easy-to-use resource.
- http://www.wikijob.co.uk/wiki/internships-placements
  Global site, very comprehensive
- http://www.ratemyplacement.co.uk and http://www.glassdoor.co.uk
  Good overviews of potential employers — excellent resources
- http://careerweb.leeds.ac.uk/info/6/work_experience/149/your_options/2
  Leeds Uni Careers Centre info on 12-month placements
- Graduate recruiters have done more promotions through social media, skills training, university careers services, campus brand managers, careers fairs and recruitment presentations during this year’s recruitment campaigns—and less advertising in graduate directories, sector guides and local guides.
Job/Salary Expectation

Info from High Fliers 2015 report
2014-15 review of graduate vacancies & starting salaries at Britain’s leading employers.

Largest graduate recruiters in 2015 will be Teach First (2060), PwC (1570) and Deloitte (1100).

Graduate Starting salaries for 2015 at the UK’s leading graduate employers are expected to increase for the second year running in 2015, reaching a median of £30,000 for the first time.

Median 2015 starting salaries in £k:

- Most generous: investment banks 45; law 40; oil & energy 32.5
- Least generous: public sector 20; retailers 26; Engineering 27.5
- The highest published graduate starting salaries for 2015 are at the European Commission 41.5 and retailer Aldi 41.

2012-13 Leeds Math YII placements: from 13 to 22 with median 18.5.
What next?

- Leeds University Careers Centre Internship Programme —
  http://careerweb.leeds.ac.uk/info/31/...
  ...advertise_a_job_or_internship/24/internships_and_placements
- Leeds University Careers Centre Drop-in Service (5-7 Cromer Terrace, talk face-to-face with advisors about placements, jobs, help with CV preparation)
- Recruitment fairs — keep abreast online via
  http://careerweb.leeds.ac.uk/info/32/attend_a_careers_fair/13/upcoming_fairs
- Proactively search the internet for other related sites
- Regularly check emails from YII coordinator (me)
- Attend talks of returning students in next “Placement-Oktoberfest”, October 2015, which will also have invited external speakers from industry

Further questions?

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